USAID/Nigeria HIV/AIDS
Strategy Assessment Report

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ACRONYMS AND ABBREVIATIONS

AIDS	acquired immune deficiency syndrome
APIN	AIDS Prevention Initiative in Nigeria
BASICS	Basic Support of Institutionalizing Child Survival
CAPA	community action and planning approach
CDC	Centers for Disease Control and Prevention
CEDPA	Center for Development and Population Activities
CPH	Community Partnerships for Health
DFID	Department for International Development (UK)
FY	fiscal year
HEAP	HIV/AIDS Emergency Action Plan
HIV	human immunodeficiency virus
JHU/CCP	Johns Hopkins University/Center for Communications Programs
IMPACT	Implementing AIDS Prevention and Care Project
MEDS	Monitoring, Evaluation and Design Services
NACA	National Action Committee on AIDS
NASCP	National AIDS and STDs Control Program
PSI	Population Services International
PSRHH	Promoting Sexual and Reproductive Health for HIV/AIDS Reduction
SFH	Society for Family Health
STD	sexually transmitted disease
UNICEF	United Nations Childrens Fund
USAID	United States Agency for International Development

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EXECUTIVE SUMMARY

This report includes the findings of a six-person team that carried out a preliminary assessment of the USAID HIV/AIDS assistance portfolio in Nigeria, in March 2002. USAID/Nigeria is in the third year of a four-year transition strategy that has included substantially more support for HIV/AIDS prevention and care activities. The team was asked to review the HIV/AIDS transition strategy and program, meet with partners, assess recent program changes, suggest priorities for the remaining 18 months of the current strategy, determine information gaps, and recommend analytical activities to support the Mission's design of a new multiyear strategic plan later this year.

Nigeria's social indicators are among the worst in the world. The Bureau for Global Health recently assessed the needs in all USAID supported countries and determined that Nigeria has the fourth largest number of adults infected with HIV in the world—3.47 million—the highest number in West Africa and the third highest in sub-Saharan Africa.

Approximately 80 percent of Nigeria's HIV infection is transmitted through heterosexual contact. The 2001 national seroprevalence survey estimated national prevalence at 5.8 percent, up from 1.8 percent in 1991. Prevalence varied from a high of 13.5 percent in Benue State to a low of 1.8 percent in Jigawa State. Prevalence was highest in the 15–29 age group (6.0 percent), although north–south variations were great.

There is no routine testing of vulnerable groups in high-risk situations, such as commercial sex workers, their clients (especially long-distance truck drivers), men in the uniformed services, injecting drug users, or men who have sex with men. Two behavioral surveillance surveys have been conducted with limited samples of at-risk populations. Findings indicate little knowledge of the primary modes of HIV transmission, inconsistent condom use in high-risk situations, and estimations of low personal risk.

Few Nigerians know their HIV status. A variety of sociocultural factors such as polygamy, multiple partners, premarital sex, and promiscuity exacerbate individual vulnerability. In addition, fear, denial, and stigma remain major obstacles to effective prevention, care, and support programs.

The Government of the Federal Republic of Nigeria has been slow to react to the threat of HIV/AIDS. The president's office has recently

provided leadership, but overall attention and investment in HIV/AIDS prevention has been far too low.

USAID has provided considerable assistance to Nigeria, particularly in health systems development, since the 1980s. In 1999, with the installation of a democratically elected president, USAID increased its support and again began to work with the government. Funding for HIV/AIDS activities increased from $2.7 in FY 1999 to $11.4 million in FY 2001, and the AIDS epidemic is dire in Nigeria, HIV/AIDS funding will probably continue to rise significantly.

The current program is implemented by eight partner organizations that work in prevention programs, including behavior change interventions and condom social marketing, care and support for people living with HIV/AIDS and their families, care and support for orphans and vulnerable children, and projects directed at implementing policy change.

Other U.S. Government agencies involved in HIV/AIDS work in Nigeria include the Centers for Disease Control and Prevention; the Departments of Defense and Labor; and the Democracy and Governance, and Education offices within USAID.

Key foreign donors include the British Department for International Development, which works as a partner with USAID in an extensive contraceptive social marketing project managed by Population Services International; the World Bank; the United Nations community; the Canadian International Development Agency; the European Union; the Japanese International Cooperation Agency; and the Government of Italy. The Ford, MacArthur, Packard and Bill and Melinda Gates Foundations also have substantial programs.

The report includes these findings concerning the present USAID-supported HIV/AIDS program.

1. USAID and its partners have been able to effectively and quickly design programs with significantly more money. However, not all U.S. Government agencies and their implementing partners are not working in the program areas in which they have comparative advantages. More information is needed on coverage, results, effects, and lessons learned in order to meet Nigeria's needs.

2. USAID/Nigeria has done an excellent job in focusing and consolidating its program so that it is effective, and it has instituted the prevention-to-care continuum. This has been difficult to achieve because it is being pressured to expand its geographical reach. Even in the focus states, it is possible to work with only a few of the local government authorities.

3. Despite promising signs of a renewed high-level government commitment to HIV/AIDS, public services from prevention to care are virtually nonexistent. As a result, dangerously high levels of misinformation, denial, and stigma exist, which form barriers to prevention, treatment, care, and support.

4. The seroprevalence and behavioral surveillance data require methodologic review before new programs are geographically expanded and before high-quality monitoring can take place.

5. In the future, implementing partners and other donors should be able to share the lessons they have learned.

6. Behavior change communication and interventions represent a significant proportion of USAID's investment in Nigeria. However, in order to design future projects, these projects need to improve and they need to be better documented, and lessons that have been learned need to be shared.

7. Voluntary counseling and testing and prevention of mother-to-child transmission services are weak, in large part due to the stigma attached to being HIV-positive. Whereas people living with HIV/AIDS and those affected by it are part of the current USAID interim program, these efforts are limited and scattered, and thus lack effectiveness.

8. The USAID/Nigeria population, health, and nutrition office has a heavy workload. Although the staff are quite competent, their numbers may not be sufficiently large to manage the growing and challenging HIV/AIDS portfolio.

Key recommendations are divided into those that should be implemented immediately and those that should be undertaken before the new program is designed, which is scheduled for later in 2002.

Recommendations that should be implemented immediately include the following:

1. USAID should hold a facilitated planning meeting of all implementing partners either in Lagos or Kano, or both, to jointly plan for FY 2003.

2. Similar facilitated meetings should be held with partners in common program areas.

3. The effort to map the activities, strengths, and advantages of implementing partners should continue and should be expanded.

4. An expert workshop or meeting should be convened to review estimates of seroprevalence and sentinel surveillance methodology.

5. USAID should continue work with the government, key partners, and donors to identify feasible and technically sound national indicators and to design and strengthen corresponding surveys and other surveillance approaches.

Recommendations that should be implemented before the next strategic design mission include the following:

1. Programmatic and geographic priorities should be reaffirmed in order to ensure they have maximum impact.

2. Implementing partners should be encouraged to share their HIV/AIDS experience in order to emphasize their comparative advantages and to minimize similar but uncoordinated programs.

3. A U.S. Government coordinating committee for HIV/AIDS should be established and chaired by USAID.

4. Behavior change intervention objectives and indicators should be agreed to, lessons learned should be documented, and behavior change interventions should be made stronger.

5. Prevention, care, and support interventions in focal states should be expanded, particularly for voluntary counseling and testing, and prevention of mother-to-child transmission.

6. Programs for orphans and vulnerable children and their caregivers need to be documented and evaluated in order to identify key elements that can be scaled up.

7. Measuring and monitoring program effectiveness requires a denominator against which change can be compared.

8. The Mission needs more staff.

I. OVERVIEW

This report includes the findings of a six-person team that worked in Nigeria March 11–28, 2002 to perform a preliminary assessment of USAID's HIV/AIDS assistance portfolio. USAID/Nigeria is in the third year of a four-year transition strategy that has included substantially higher support for HIV/AIDS prevention and care activities. The team was asked to review the HIV/AIDS transition strategy and program, meet with partners, assess recent program changes, suggest program priorities for the remaining 18 months of the current strategy, determine information gaps, and recommend analytical activities to support the mission's design of a new multiyear strategic plan later this year.

The team included two members from USAID's Office of HIV/AIDS in Washington, D.C., two Nigerian health professionals, a long-time expatriate American who teaches in Nigeria, and one expatriate team leader. The full team met with the Mission staff, Government of Nigeria officials, and other donors and partners in Abuja and Lagos March 11–21, and the team provided a preliminary debriefing to the Mission on March 22. The four Nigerian and expatriate team members remained in Nigeria for another week to complete the analysis of materials and prepare the first draft of this report.

II. BACKGROUND

Overall Social and Health Conditions

Nigeria's social indicators are among the worst in the world. The percentage of Nigerians living below the poverty line has grown steadily from 28.1 percent in 1980 to 65.6 percent in 1996.(1) The World Bank estimates that gross national income per capita in Nigeria is $260, compared with $480 for all of sub-Saharan Africa and $420 for all low-income countries.(2) The percentage of children aged 12–23 months who have been vaccinated has dropped from 30 percent in 1990 to 17 percent in 1999.(3) USAID's Bureau for Global Health recently assessed the needs in all USAID supported countries and determined that Nigeria ranked second in terms of the magnitude and severity of its health problems.

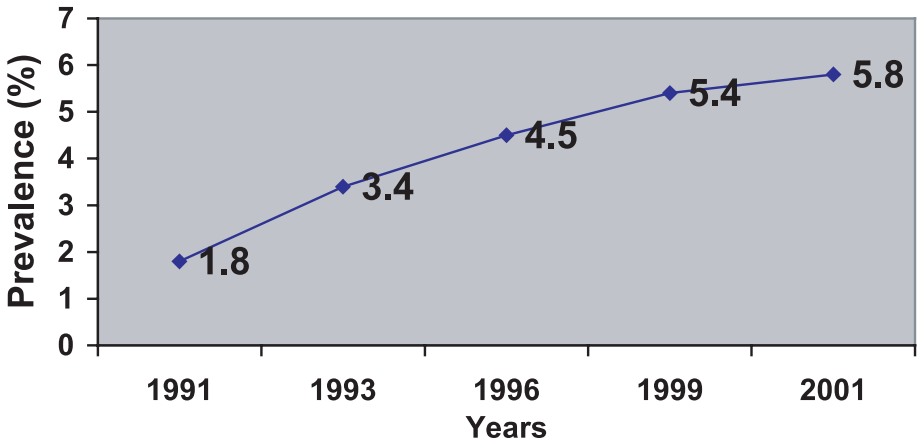
Epidemiology of HIV/AIDS

The first AIDS case in Nigeria was officially reported to federal authorities in 1986. Since then, the number has grown exponentially, and by June 2001, a cumulative total of 52,962 cases had been reported to the federal Ministry of Health through routine reporting and notification on HIV/AIDS. However, these reported cases represent only a small fraction of the actual number of AIDS cases, most of which go unreported as a result of poor documentation, poor record-keeping, and stigma. The cumulative number of AIDS cases is estimated by the National AIDS and STDs Control Program (NASCP) to have reached 590,000 by the end of 1999.(4)

Although sentinel seroprevalence information has been available since the mid-1980s, regular reporting did not begin until 1991–1992. Figure 1 shows that the prevalence of infection has increased steadily.

HIV prevalence varies greatly from state to state. The highest prevalence is in Benue (13.5 percent) and the Federal Capital Territory (10.2 percent) in the north-central zone, and in Akwa Ibom (10.7 percent) in the south-south zone.[1] The lowest prevalence is found in Jigawa (1.8 percent) and Sokoto (2.8 percent) in the northwest zone. The high mobility of Nigeria's population suggests little likelihood that any part of the country will remain safe for long.

Figure 1: National HIV Prevalence



HIV is most widespread among young adults aged 15–29, with an average national prevalence of about 6 percent in 2001. Regional variations in age-specific prevalence are great, with the south-south zone having the highest rates and the northwest zone having the lowest. The significance of these high rates among lower age groups is that young people are increasingly being exposed to HIV infection at much younger ages.

Although HIV prevalence in Nigeria is lower than in neighboring African countries, the prevalence rate should be considered in the context of the country's population of approximately 120 million. It is estimated that the number of adults and children living with HIV/AIDS has reached more than 3 million and, in the absence of major targeted interventions, may reach 5 million by 2009.(4)

These seroprevalence data, which are collected from women seeking antenatal care, need to be interpreted with caution because only 65 percent of women seek care at antenatal clinics, and this varies from region to region.(3) It is also not certain to what extent the sentinel population in general and pregnant women in particular are representative of the national population. Seroprevalence data on subpopulations other than women at antenatal clinics are not routinely collected on a national basis. There are no recent seroprevalence surveys among commercial sex workers and no surveys for their primary clients, such as long-distance truck drivers and the uniformed services, both of whom serve as important "bridging" populations for the spread of HIV from high-risk groups to the general population. The most recent data indicate that among commercial sex workers in Lagos, HIV prevalence rose from 2 percent in 1988–89 to 12 percent in

[1] Nigeria is divided into six zones: north central, northeast, northwest, southeast, southwest, and south south.

1990–91. By 1995–96, up to 70 percent of commercial sex workers tested positive.(5) A recent study carried out among a small sample of injecting drug users found that HIV prevalence was 8.9 percent, and among noninjecting drug users it was 10 percent. However, prevalence among women drug users was 10 times higher than among men (44 percent compared with 4.2 percent).(6)

Behavioral Surveillance Surveys

In 1999, Family Health International (FHI) and NASCP carried out a limited behavioral surveillance survey in selected states among high-risk groups, including commercial sex workers, male truck drivers, and boys and girls in school.(7) The survey found low levels of knowledge of HIV prevention methods (median, 24 percent) among all groups, although commercial sex workers had a slightly higher degree of knowledge. Reported condom use by commercial sex workers during their last commercial sex was approximately 90 percent in the south but less than 50 percent in the north. Consistent condom use with a paying partner was somewhat lower (between 76 percent and 89 percent in the south and 24 percent in the north). Only about one-third of commercial sex workers reported using a condom during the last time they had sex with a nonpaying partner. Condom during the last risky sex act among truck drivers ranged between 21 percent and 47 percent. In-school male youths were more likely to use a condom during their last nonregular sex (ranging from 32 to 69 percent) than were in-school females (ranging from 21 to 38 percent). Age at first sex for all in-school youth was estimated to be about 15–16 years.

Population Services International/Society for Health (PSI/SFH) carried out another survey in 2001 on risk perception of HIV/AIDS and safe sex practices among commercial sex workers in selected sites in the six zones of the country.(8) The survey found that whereas nearly 100 percent of commercial sex workers had heard of HIV/AIDS and 80 percent knew that HIV is transmitted through sex, less than 40 percent knew that noncondom use increases risk. Only 24 percent knew that a healthy looking person could be HIV-positive. Consequently, many commercial sex workers assessed risk by looking at the physical features of the customer. While the survey found that 55 percent of commercial sex workers reported using a condom consistently in the last week with clients, this is believed to be overreporting because commercial sex workers did not consider using condoms with their boyfriends, who they did not regard as clients.

Discrepancies exist between the FHI and PSI/SFH findings with regard to the perception of risk and condom use by commercial sex workers, and condom use is an important variable that needs to be tracked in order to measure behavior change.

In addition to individual vulnerability, various sociocultural factors influence an individual's risk of acquiring HIV infection. These include the widespread practice of polygamy and sexual networking, high prevalence of untreated sexually transmitted infections, low condom use, poverty, low literacy, low status of women, stigmatization, and denial of the HIV/AIDS epidemic. Some states and local government authorities are fearful of being tagged as "AIDS epicenters" due to stigma and attitudes of denial.(9)

III. GOVERNMENT OF NIGERIA RESPONSE

The Government of Nigeria has been slow to react to the threat of HIV/AIDS. The problem was exacerbated during the period of military rule by low overall support for health care. Although there has been recent leadership at the presidential level, overall attention and investment in HIV/AIDS prevention has been far too low.

The restoration of democracy in 1999 brought the first signs of a national response to the growing HIV/AIDS epidemic. Data from the 1999 seroprevalence survey were presented to the new president, who immediately formed a Presidential Commission on AIDS. Members of the commission include all government ministers, with the president serving as chairperson. In early 2000, the president formed the National Action Committee on AIDS (NACA), a committee that reports directly to him, and it stresses the need for a multisectoral approach to AIDS. At the state and local levels, state and local action committees on AIDS are being formed to spearhead the local multisectoral response to HIV/AIDS. NASCP and the state and local HIV/AIDS coordinators, under the federal and states ministries of health, are members of the state and local action committees. The relationship and division of responsibility between the national committee and its lower administrative committees and the federal and states ministries of health are still evolving, and some points of tension exist between them.

A situation analysis that was commissioned by the national committee identified the most important areas for action to be developed in a national strategic plan, and the federal budget earmarked $40 million for HIV/AIDS activities for the period 2000–01.(10) A mission of key multilateral and bilateral donors led by World Bank officials visited Nigeria in March and April 2000, and developed the framework for an interim action plan, and with assistance from USAID and other donors, was later developed into the HIV/AIDS Emergency Action Plan (HEAP).

HEAP represents, in the president's words, Nigeria's "battle plan" in the fight against HIV/AIDS.(11) The plan identifies more than 200 activities that Nigeria intends to pursue during the period 2001–2004; activities that are conceived as short-term, high-impact interventions. The implementation of HEAP will form the base for a medium-term strategic plan for HIV/AIDS in Nigeria. Priority strategies include 1) the removal of sociocultural, informational, and other barriers to catalyzing community-based responses; 2) preventive interventions targeted at high-risk populations and the general population; and 3) care and support for people living with or affected by AIDS.

IV. ASSISTANCE FROM USAID AND OTHER U.S. GOVERNMENT AGENCIES

Before 1993, USAID provided considerable assistance to Nigeria, particularly in health systems development. However, in 1993, when the military refused to install a democratically elected president, the United States restricted its help to humanitarian assistance in health care issues at lower funding levels. USAID did not work directly with the government but provided support through private sector groups.

In 1999, with the installation of a democratically elected president, USAID increased its support and again began to work with the government. Particular priority was given to HIV/AIDS prevention in the four-year transition strategy, 1999–2003. Funding for HIV/AIDS activities rose from $2.7 million in FY 1999 to $11.4 million in FY 2001. Because of the gravity of the situation, Nigeria has been classified by USAID as a priority country for HIV/AIDS assistance, and it is expected that HIV/AIDS funding will continue to rise.

The 2000 transition strategy continued many of the same HIV/AIDS program elements as earlier assistance programs (i.e., policy development, condom supply, behavior change, diagnosis and treatment of sexually transmitted infections, and improved disease surveillance). However, USAID moved from a "targets of opportunity" approach to a more geographically and high-risk population-focused approach. USAID also again began working with the public sector. The transition strategy also included care and support for people living with or affected by AIDS, including orphans and vulnerable children.

The current program is being implemented by eight partners. More than half of the HIV/AIDS funding supports a single partner, Family Health International/IMPACT, which is seeking to deliver a comprehensive program of HIV/AIDS prevention and care concentrated in four focal states, Anambra, Lagos, Taraba, and Kano. These states have a total population of 21 million people, or about 17 percent of the national population. Currently, FHI is working only in 12 local government authorities in these states. Two other partners, PSI/SFH and the Policy Project, receive approximately 34 percent of the mission's annual funding. PSI/SFH also receives substantial support from USAID's primary HIV/AIDS donor partner, the British Department for International Development. In contrast to FHI, PSI/SFH focuses its national program on prevention only, but seeks to implement this more specifically in junction towns, which attract high-risk populations such as commercial sex workers and truck drivers. The third major partner, the Policy Project, focuses its work in the important area of advocacy and national policy change, both to reduce stigma and to improve the rights for those infected and affected by HIV/AIDS.

The five remaining partners—the International HIV/AIDS Alliance, the Centre for Development and Population Activities (CEDPA) with Africare, Johns Hopkins University/Center for Communications Programs (JHU/CCP), EngenderHealth, and Measure—carry out smaller, discrete activities, respectively, in care for orphans and vulnerable children; communication with youth; universal safety precautions for health care professionals working with HIV/AIDS-infected patients; and improved data collection, analysis, and reporting. For more on their activities as well as those of the three primary partners, see Annex II.

Aside from USAID-funded activities, a number of other U.S. Government agencies are also actively involved in HIV/AIDS in Nigeria. The Centers for Disease Control and Prevention (CDC) is proposing a $2.7 million program. It has three major components: 1) conducting surveys of HIV/syphilis seroprevalence among women seeking antenatal care and other high-risk groups; 2) implementing voluntary counseling and testing services as a primary prevention strategy and as an entree into prevention of mother-to-child transmission, care, and support to people living with or affected by AIDS, and improving blood donor services and care for persons with sexually transmitted infections; and 3) instituting behavior change communications activities

and behavioral surveillance surveys. CDC plans to support Nigeria in its efforts to strengthen and develop the capacity of three or four centers of excellence (i.e., university teaching hospitals) to provide quality services for HIV/AIDS case management, starting from voluntary counseling and testing services through prevention and treatment of opportunistic infections to antiretroviral therapy and community home-based care. Aside from providing support for nationwide HIV/syphilis prevalence sentinel serosurveillance activities, CDC will concentrate its community-based projects in the four focal states where USAID HIV/AIDS interventions are situated. CDC is also planning to support community-based care for those infected with HIV/AIDS and behavior change among youth through a U.S. faith-based organization. Both of these activities will be carried out through groups initially supported by CDC/Atlanta.

The Department of Defense has committed $10 million for comprehensive interventions in the Nigerian military. Similarly, the Department of Labor has committed $1.8 million for workplace interventions. The team was unable to obtain any information on the Department of Labor intervention.

V. OTHER DONORS

Other foreign donors have committed financial assistance to Nigeria's HIV/AIDS program. They include the British Department for International Development (DFID), the Canadian International Development Agency, Italian Cooperation, the Japanese International Development Agency, the World Bank, and the United Nations community. The Bill and Melinda Gates Foundation is the largest source of private foundation support, and the Ford, Packard, and MacArthur Foundations are also actively engaged in HIV/AIDS activities.

British Department for International Development

Since 1995, DFID has been the primary donor to an extensive contraceptive social marketing project managed by Population Services International and implemented by the Society for Health. The project developed innovative mass media and interpersonal communications strategies to promote behavior change while substantially increasing the supply of condoms for prevention of HIV/AIDS and other sexually transmitted infections, and a range of family planning methods to communities throughout Nigeria.

The Promoting Sexual and Reproductive Health for HIV/AIDS Reduction (PSRHH) program builds on lessons learned over the last seven years in the development and management of a national contraceptive social marketing program.(12) It capitalizes on the new social, political, and economic environment developing in Nigeria to integrate this effort into one new, cohesive program designed to lead to more systematic behavioral and social changes that will lead to more clearly defined and quantifiable achievements. The program, budgeted for $97.5 million over seven years, addresses low levels of reproductive health, low contraceptive prevalence rates, and the growing HIV/AIDS epidemic through a combination of providing contraceptives, condoms, and promoting behavior change (i.e., the perception of personal risk, risk environments, and condom negotiation skills).

The World Bank

A credit of $90.3 million over five years from the International Development Association is nearing final approval and represents the single largest facility to support system-wide HIV/AIDS programs in Nigeria.(13) The project consists of three components that will operate at the federal and state levels. The capacity-building component ($30.6 million) will be used to evaluate and approve proposals from sectoral ministries, monitor and evaluate the implementation of HEAP, develop a clearinghouse of HIV/AIDS information in Nigeria, and provide overall project management, including monitoring and evaluation activities. The second component ($31.3 million) supports HIV/AIDS activities in HEAP to be carried out by line ministries. The third component, the HIV/AIDS Community Fund ($33.9 million), will provide support for technical assistance, training, and implementation to nongovernmental and community-based organizations, the private sector, and communities to prepare and implement programs they propose. The groups will be encouraged to focus on programs that target high-risk groups, such as sex workers, truck drivers, and youth, and to strengthen care and support for people living with and affected by AIDS, which public sector services cannot reach or organize. Activities at the state and community levels will start initially with six states. Activities will begin in other states during the next four years, and the project will eventually be active in 18 states over the project period. Nigeria has not yet met all the conditions for disbursement, so the funds have not yet been made available. Furthermore, the team understands that several states, including Lagos and Kano, are not willing to accept loan funds.

The United Nations community, comprising the Joint United Nations Programme on AIDS, United Nations Childrens Fund (UNICEF), World Health Organization, United Nations Development Fund for Women, United Nations Development Programme, United Nations Population Fund, and International Labour Organization have a combined commitment of $20.3 million over three years. Activities include strategic planning; policy formulation; capacity building; care for people affected by AIDS, especially children; prevention of mother-to-child transmission; surveillance; and workplace programs.

The Canadian International Development Agency, the Japanese International Cooperation Agency, the European Union, and the Government of Italy have all committed support for HIV/AIDS work in Nigeria in excess of $50 million over an unspecified time period. These governments are still conducting situational analyses or are at the beginning of the program formulation process.

VI. FINDINGS

1. Significant USAID accomplishments have been achieved within a short period of time.

USAID and its partners have effectively programmed significant resources within a relatively short period of time and have initiated a large number of diverse activities. USAID funding for HIV/AIDS increased by 400 percent between FY 1999 and FY 2001. In the process, USAID and its implementing partners have made government capacity stronger, built strong comple-

mentary relationships with other donors, and forged effective partnerships between local Nigerian nongovernmental and community-based organizations.

USAID technical assistance to the National Action Committee on AIDS has contributed significantly to the development and formulation of HEAP and developing the AIDS impact model for advocacy purposes. National guidelines and protocols for HIV testing and a national sexually transmitted infection control management manual have been developed. Technical assistance has gained the political support of the Federal Ministry of Defense to develop and implement an HIV/AIDS policy. Also at the national level, USAID's support of behavior change through a condom social marketing program has resulted in sustained sales of more than 9 million condoms a month, with cumulative sales of 105 million since the beginning of FY 2001. This represents an increase of more than 50 percent over the previous year. Reported condom usage as measured by condom use during the last nonspousal sexual act has also increased significantly, up from 40 percent in 1998 to 60 percent in 2001. It is estimated that 3 million Nigerians have received HIV/AIDS information and education from field communicators, and that 66.7 percent of individuals surveyed report consistent condom use in commercial or casual sex in the preceding two months.(14)

At the state level, USAID, with Family Health International, is seeking to concentrate its programs in four focal states: Anambra, Lagos, Kano, and Taraba, although interventions continue in nine additional nonfocal states. These are being implemented through partnerships among local Nigerian nongovernmental and community-based organizations. Behavior change interventions are directed at commercial sex workers, in-school and out-of-school youth, the armed forces, and the police. Faith-based groups are playing a role in information and education, as well as in the care and support of people living with and affected by HIV/AIDS, especially AIDS orphans. In addition, state action committees on AIDS are receiving technical assistance to enable them to conduct needs assessments and to develop comprehensive HIV/AIDS programs at the local level. In Lagos State, an HIV/AIDS hotline provides youth with information and confidential counseling. The extent and coverage of these state programs has yet to be estimated.

USAID has built a strong partnership with the larger donor community, especially with the British Department for International Development, on HIV/AIDS prevention through behavior change activities. USAID/Washington and the Mission have also worked closely with the Japanese International Cooperation Agency during the past six months, and this effort recently resulted in a signed memorandum of understanding that, if implemented, will result in a number of collaborative HIV/AIDS activities, including voluntary counseling and testing.

Most of the new HIV/AIDS interim interventions are less than a year old, so it is not possible to assess their effect. However, the rapid increase in USAID support has led to multiple activities involving many organizations, but their roles require more definition and better collaboration. It is not clear that U.S. Government agencies or implementing partners are working in areas in which they are most effective or in which they have a comparative advantage. Not surprisingly, there is insufficient information on coverage, results, impact, and lessons learned. This is critical in order to set priorities and to effectively scale up to meet Nigeria's growing needs.

2. Insufficient National Understanding and Commitment to Fighting HIV/AIDS

Although the new civilian government holds the promise of reform after decades of corrupt military dictatorships, Nigeria's democracy is nascent and fragile. The new government came to power on the basis of a 20 percent turnout of voters. The reform process, including provision of basic health services, is just beginning in the face of a near collapse of basic infrastructure, civil service demoralization, inadequate funding, ethnic and religious tensions, and widespread public skepticism and disillusionment about the role of government in improving the lives of the average Nigerian.

There are encouraging signs of a government commitment at the presidential level to combat HIV/AIDS. These include the creation of the presidential, national, and states action committees on AIDS, the formulation of HEAP, a pledge to embark on one of the largest programs of access to antiretroviral drugs in the world, and a financial commitment of more than $50 million of domestic resources over the next five years. There is a danger, however, that the government's laudable emphasis on antiretroviral therapy care may lead it to neglect even more critically needed prevention activities that are necessary to slow down the epidemic.

Although the National Assembly has approved a larger federal budget to fight HIV/AIDS, Nigeria has a decentralized health system, which gives responsibility for health service delivery to state and local government authorities. Thus, higher federal budgets do not automatically translate into better or stronger health services in local areas. Whether or not improvement in services occurs depends entirely on the autonomous local health authorities.

Consequently, public HIV/AIDS services in Nigeria, from prevention to care and support, are virtually nonexistent. The few services available are provided largely by the private sector, particularly by nongovernmental organizations, community-based organizations, and increasingly, by faith-based organizations. These are limited in geographic coverage and are unlikely to be sufficient to stem the growth of the epidemic or to provide care for the growing numbers of people who are infected or affected by HIV/AIDS.

The lack of an effective national response to the epidemic means that although most Nigerians have heard of HIV/AIDS, few have accurate information about its causes, risks, and prevention. There are dangerously high levels of misinformation and denial. For example, equal weight is given to haircuts and unprotected sex as modes of transmission. Some sex workers believe that if they are good Christians they cannot become infected. Others believe that HIV is a Western conspiracy or a curse.(7)

Stigma remains high and one of the most impenetrable barriers to combating the epidemic. Individuals who test positive for HIV face severe discrimination and stigma, particularly in health care. The team heard reports of some health workers ordering HIV tests for pregnant women and turning away those who tested positive. This fear of being stigmatized, coupled with the widely held perception that nothing can be done to prevent or treat AIDS, results in individuals refusing to be tested, to seek qualified medical help, or to avail themselves of prevention services. In addition, few voluntary testing and counseling services or medical services exist that

are willing or capable of serving people living with HIV/AIDS. Stigmatization and the absence of supportive services also results in those infected and affected by HIV/AIDS, including orphans and vulnerable children, being left to fend for themselves.

3. Systems to Monitor and Track Changes in the Epidemic Need to be Stronger

Deciding on priorities, both programmatic and geographic, is hindered by incomplete data systems. The biannual seroprevalence surveys track HIV prevalence only among pregnant women who seek antenatal care services. Routine or periodic seroprevalence surveillance of other subpopulations, such as commercial sex workers and their clients, including long-distance truck drivers, the uniformed services, injecting drug users, and men who have sex with men, is not conducted.

The biannual seroprevalence survey needs to be stronger. Conversations with CDC officials and others revealed that procedures are not always followed, that key commodities are not always available, that not enough operational and analytical staff have been hired, and that data are not accepted by key political figures at the state level. The National Action Committee on AIDS has suggested that states are in a better position to manage and implement the surveys. This has serious implications for data quality, especially national estimates, timeliness, and costs.

Similarly, behavioral surveillance surveys of vulnerable groups in high-risk situations are not available other than the SFH and FHI surveys referred to earlier. Small, nonrepresentative surveys have been conducted over the years (see Annex VI) but important gaps exist in this information.

The Mission has heard of several options for the next round of behavioral surveillance surveys, one commissioned by NASCP and one commissioned by NACA, one implemented by Family Health International, one by PSI/SFH, and one by CDC.

4. Programmatic and Geographic Priorities

FHI/IMPACT followed a careful procedure, including a desk review, rapid assessments, in-depth assessments, and stakeholders' meetings before it selected the four focal states.(15) The procedure it followed included criteria such as the expressed desire of NACA, locations where USAID partners and other donors were currently working, the willingness of state governments to cooperate, and so on.

Table 1 depicts an initial attempt to determine how this review was made operational in terms of the current programmatic and geographical priorities by FHI/IMPACT, which represents slightly more than 50 percent of the USAID budget for HIVAIDS in FY 2001. The table does not reflect some of the commitments made by Family Health International, especially at the federal level; however, it does represent approximately 70 percent of the funding that Family Health International received in FY 2001.

Table 1: FHI/IMPACT Level of Effort by State and Target (subagreements approved for FY 2001 in US$)

	FHI/IMPACT Budget per State (US$)						
Activity/Target population	*Anambra*	*Lagos*	*Kano*	*Taraba*	*All other states*	***Total Budget (US$)***	***Percentage of total budget***
Prevention							
Sex workers (1)	52,073	173,452	0	66,303	39,767	$ 331,595.00	7.5%
Transport workers	54,264	11,900	47,399	49,747	0	163,310.00	3.7%
Armed Forces (2)	16,570	16,570	16,570	16,570	546,823	613,103.00	13.9%
Police (2)	7,780	7,780	7,780	7,780	257,368	288,488.00	6.5%
Youth - Sec. School	66,517	117,542	36,607	81,315	120,251	422,232.00	9.6%
Youth - Tertiary	43,832	43,969	32,885	0	237,267	357,953.00	8.1%
Youth - "Corpers"	0	0	32,885	49,747	0	82,632.00	1.9%
Youth - Out of School	55,315	101,375	32,885	53,267	0	242,842.00	5.5%
General Population	0	0	48,884	0	0	48,884.00	1.1%
Faith-Based Groups	106,691	404,941	0	202,234	75,523	789,389.00	17.9%
Subtotal	403,042	877,529	255,895	526,963	1,276,999	$ 3,340,428.00	75.6%
Care and Support							
PLWHA & PABA (3)	82,082	169,339	34,602	180,804	184,021	$ 650,848.00	14.7%
OVC	0	84,015	0	0	0	84,015.00	1.9%
STI Management	0	0	0	31,743	0	31,743.00	0.7%
Vulnerable Women	0	0	39,955	0	0	39,955.00	0.9%
VCT (4)	0	104,948	34,602	0	0	139,550.00	3.2%
Subtotal	82,082	358,302	109,159	212,547	184,021	$ 946,111.00	21.4%
Other							
LACA	0	131,744	0	0	0	$ 131,744.00	3.0%
Grand Total	485,124	1,367,575	365,054	739,510	1,461,020	$ 4,418,283.00	
Percentage	11.0%	31.0%	8.3%	16.7%	33.1%		100.0%

Notes:

1. A sex worker project in Kano for $33,795 was unable to start
2. Activites are nationwide and assumed funds are equally distributed among 36 states and FCT
3. SWAAN's budget in Lagos does not differentiate between support for PLWHA and OVC and therefore the budget is divided equally between the two.

Definitions:

FHI, Family Health International; LACA, Local Action Committee on AIDS; OVC, orphans and vulnerable children; PABA, people affected by AIDS; PLWHA, persons living with HIV/AIDS; VCT, voluntary counseling and testing; STI, sexually transmitted infection

Source: FHI/Nigeria: Quarterly Report for First Quarter FY2001

Table 1 also attempts to show how subgrantee monies are divided among HIV/AIDS program areas, from prevention, to care and support. It is assumed that the first 10 activities listed are primarily prevention activities, and these account for $3.3 million of the subcontracts for Family Health International, or 76 percent of the total budget for the year. Of this prevention work, activities directed at youth (secondary and tertiary in-school youth, out-of-school youth, and "corpers") represent 25 percent of the Family Health International budget, followed by 20 percent for the armed forces and police, 18 percent for faith-based organizations, and slightly more than 1 percent for the general population. Prevention activities directed at commercial sex workers and long-distance truck drivers represent only 11 percent of all prevention activities.

The data suggest that commercial sex workers and their clients may not be receiving adequate program attention.

5. Program Collaboration among Implementing Partners

The Mission's decision to focus the three public health and nutrition subsectors—child survival, family planning/reproductive health, and HIV/AIDS—in selected key states, albeit different focal states for the most part, has been welcomed by implementing partners as a means for concentrating resources, maximizing impact, and fostering collaboration at the state level. An assessment performed recently by the MEDS Project of the implementing partners' current administrative systems cites a number of these collaborative undertakings, including monthly meetings of all implementing partners and the creation of a USAID in-house advisory committee on collaboration.(16)

However, as the MEDS assessment concurs, there appear to be a number of missed opportunities for partner collaboration and joint planning at the operational level. These include potential collaboration among implementing partners within and between USAID funded subprograms and among partners receiving support from other donors. Tables 2 and 3 contain an initial attempt to identify both geographical and programmatic areas in which potential collaboration could be made stronger. Table 2 shows the location by state of USAID-funded subprograms as well as the programs of other donors working in HIV/AIDS. The table does not provide information about the number of local government authorities or the total population covered. Table 3 shows USAID implementing partners by programmatic area. Neither table indicates the level of effort of the various partners as measured by their budgets for activities. Furthermore, the tables do not indicate which of the USAID-funded implementing partners also receive support for different activities from other sources. It would be useful to obtain all this information before the strategy design phase begins.

Table 2 shows that both BASICS, the lead partner for child survival activities, and Family Health International, the lead partner for HIV/AIDS activities, share their work two focal states, Lagos and Kano. Other partners, including CEDPA, JHU/CCP, Pathfinder, and EngenderHealth, are also working in one or both of these states, in addition to PSI/SFH, which by virtue of its national activities, is also working in Lagos and Kano States.

Table 2: Agency-State Matrix

Agency: IP/Donor	State (current or recent work)															
	Lagos	Kano	Anambra	Taraba	Abia	Benue	Oyo	Ekiti	Osun	Plateau	Ondo	Rivers	Ebonyi	Enugu	Bauchi	Other
USAID/PHN																
BASICS	N,G	N,G			N,G											
FHI	N,G	N,G	N,G	N,G	N			N	N				N			Katsina
CEDPA	N	N	N			N	N	N	N		N	N[1]				Gombe
JHU	N						V							V	V	
Pathfinder		N			N		V				N			V	V	Delta
N-ARCH									R							Ogun
Engender		N	N			N	N,V	N		N				V	V	
VISION							N,G							N,G	N,G	
PSI/SFH	contraceptive social marketing nationwide													V	V	
OTHER DONORS																
APIN/Gates	R						R			R						
CDC	G	G	G	G												
Packard		N													N	+others
DFID						N,G	G	N,G						N,G		Jigawa
W. Bank			G			G							G			note[2]
UNICEF[3]	G,N						G,N					G,N		G		FCT, Kaduna, Borno
MacArthur[4]	N	N														+others
USAID/EDU																
LEAP	G	G														Nasarawa
WDCSSI	N	G														Delta

FOCUS: N = NGO, G = various levels of government; R = research, V = contractor, sub-contractor VISION; Shading indicates a focal state.

[1] Subcontract with Africare
[2] Other states up to 18 to be added
[3] MARC project in December 2001 in Kaduna, Oyo, Lagos, FCT, and Port Harcourt
[4] Some organizational support/institutional grants shown, not individual grants

TABLE 3: NIGERIA IP Program Matrix

IMPLEMENTING PARTNER - PHN Sub-sectors	BASICS	JHU/CPP	FHI	PSI/SH	Africare	CEDPA	Futures	Netmark	Pathfinder	Engender
A. REPRODUCTIVE HEALTH										
Adolescent RH						x			x	x
Clinical services									x	x
Capacity Building NGO CBO									x	x
Capacity Building public sector									x	x
Capacity building/communication		X								
FP/RH promotion		X							x	
Behavior change						x			x	
Advocacy/policy		X				x	x		x	
Women's empowerment						X				
Distribution of FP commodities				x						
B. CHILD SURVIVAL										
Immunization	x									
Immunization/promotion		X								
Capacity building/public sector	x	X								
Capacity Building NGO CBO	x									
Advocacy/policy										
Breastfeeding	x									
Vitamin A	x									
Malaria	x							x		
C. HIV/AIDS										
VCT			x							
Orphans & vulnerable children			x		x	x				
Advocacy		X	x		x	x	x			
Surveillance			x							
Condom promotion/distribution			x	x						
Capacity building/public sector			x				x			
Capacity Building NGO CBO			x							
Behavior change			x	x		x				
Adolescents		X	x							
Targeted interventions			x	x						
Care & support			x							
HIV/AIDS integration into RH									x	x

Although USAID convenes a monthly meeting of implementing partners to discuss their programs and activities, collaboration does not seem to have progressed beyond the discussion stage. An example of a missed opportunity for collaboration is the Community Partnerships for Health (CPH) model developed by BASICS I and the Community Action and Planning Approach (CAPA) model developed by BASICS II, both of which are being implemented in Lagos and Kano States as part of the child survival subprogram. Both the CPH and CAPA address community mobilization for health, including HIV/AIDS, and collaboration between public and private sectors.

CEDPA has given subgrants to two community partnerships for health in Lagos for family planning with a strong HIV/AIDS component. However, Family Health International is not using the CHP and CAPA models in areas where it is working.

Some implementing partners receive funding from sources outside the USAID HIV/AIDS subprogram that enables them to conduct their own HIV/AIDS activities. An example is Pathfinder, which currently receives USAID funding only for family planning and reproductive health activities. However, Pathfinder is able to continue to work in HIV/AIDS activities, initially through a grant from DFID for the 1997–2000 period, because of the support it receives from the Packard, Ford, and MacArthur Foundations. Other USAID/Nigeria partners including CEDPA, Africare, which are working in what they describe as relatively narrow fields, such as care and support for persons living with and affected by HIV/AIDS, including orphans and vulnerable children, have been able to expand their HIV/AIDS activities through other non-USAID sources of funding. It appears, therefore, that not only are opportunities for collaboration among all implementing partners in the health field being missed, but the danger also exists that a multitude of similar but uncoordinated operational programs will develop with little overall effect.

6. Collaboration with Other Donors

The bottom half of Table 2 shows where other donors, such as CDC, DFID, the World Bank and others, are targeting their state-level programs. While much of this programming is still being developed, opportunities for donor collaboration are emerging and should be pursued. The existing partnership between USAID/Nigeria and DFID in the PSRHH program, is an excellent model. A second DFID program, health sector reform, is being formulated. The program will seek to strengthen state and local health structures to be more supportive of local government authorities, local AIDS action committees, and community activities in support of HIV/AIDS activities. The location of these DFID-supported state and local initiatives has not yet been determined—they may mirror the decision about where the first phase of the World Bank credit will be situated. In addition, the activities outlined in the memorandum of understanding with the Japanese International Cooperation Agency also have great potential because they build upon existing USAID projects by supplying complementary inputs.

The proposed state-level program by CDC will concentrate in the four focal states that now comprise USAID's HIV/AIDS subprogram. Opportunities to build on the strengths and comparative advantage of each need to be vigorously pursued. There are, however, some areas of overlap and potential duplication at the federal level between some of the proposed CDC activities

and those supported by USAID. These include behavioral surveillance surveys; behavior change communication with high-risk groups, primarily youth; and support for persons living with and affected by HIV/AIDS through home-based care.

Notably absent from the table are the programs supported by the U.S. Department of Defense, the U.S. Department of Labor, and the activities of the Democracy and Governance Office of the USAID/Nigeria Mission. The Department of Defense has committed $10 million for comprehensive interventions in the Nigerian military. Similarly, the Department of Labor has committed $1.8 million for workplace interventions.

In this regard, Development Associates is working with USAID on organizational development and team-building activities. Developing real platforms for better collaboration among offices in the Mission and with implementing partners is one of the activities in the Development Associates scope of work.

7. Behavior Change Interventions

Behavior change interventions supported by USAID and others, and which comprise such an important programmatic focus, have been examined in greater depth. Annex VI contains the full report of the behavior change intervention analysis.

Behavior change interventions supported by USAID/Nigeria appear to be of two main types—working with small, community-based nongovernmental organizations and mass education. While many agencies have undertaken some form of behavior change intervention work in Nigeria over the past decade, most efforts have been with small nongovernmental organization or single communities. There is little documentation of this earlier work in order to capture lessons learned for future behavior change intervention activities. USAID's main implementing partner in this arena for HIV/AIDS activities—Family Health International—has not evaluated its activities.

Population Services International is the primary player in the mass education category. The organization appears to have the capacity to perform evaluation research and has begun to use this research to enhance programming. UNICEF is also involved in mass awareness activities. As noted by DFID, there is a need to coordinate the mass awareness and community approaches to behavior change interventions.(12) This is especially true for program evaluation activities.

Reporting on mass education interventions appears to focus on adolescents and youth. Even so, there is little cross-cutting information provided about this group. Although epidemiological studies have shown that youth are at risk, little is known about what subsections of the group present the primary risk categories. For example, questions such as, "Does staying in school have any protective effect?" need to be addressed. Some work has been reported on interventions with commercial sex workers and workers in high-risk settings, but without a clear link between strategies and behavioral antecedents or the use of control groups, one cannot say definitively whether or how the intervention worked. Valuable models may exist from

MacArthur Foundation studies and those of similar groups, but these have not been assembled for easy sharing among donors.

DFID has called for better quality behavior change intervention planning and evaluation.(12) The capacity for implementing partners to undertake this is in question. CEDPA staff arranged a brief workshop for its staff in planning; JHU/CCP appears to rely on the communication program planning processes it developed more than a decade ago; and Family Health International relies on a combination of qualitative, formative assessments without scientific rigor. None of the partners directly involved in HIV/AIDS appear to have availed themselves of in-country human resources in the form of the more than 600 graduates who earned masters degrees in public health (health education) from the University of Ibadan. There is also a question of whether adequate behavior change interventions and health education technical assistance is being provided to the implementing partners from their U.S. headquarters.

8. Care and Support

Voluntary Counseling and Testing

The number of trained counselors, and screening and counseling centers continues to improve, but activities are limited to a very few states. There is an urgent need for massive scaling up. Most individuals are unable to afford the cost of screening in the few areas where this service exists. Screening methodologies are not uniform. The federal Ministry of Health has provided most screening kits on a cost-reimbursable basis. Most of the kits were procured by DFID, although CDC provided kits that were used during the 2001 sentinel survey. DFID has indicated that it will no longer provide these kits. Family Health International, Pathfinder, and EngenderHealth have been in the forefront of training counselors.

The Nigerian Institute for Medial Research has begun operating an HIV/AIDS research and testing laboratory, which is supported by the Ford Foundation. This supplements facilities at the Nigerian Institute for Pharmaceutical Research and Development and one being developed at the Jos University Teaching Hospital with funds from the AIDS Prevention Initiative in Nigeria (APIN) funded by the Harvard Institute of Public Health with a grant from the Bill and Melinda Gates Foundation. APIN has established two voluntary counseling and testing centers in the antenatal clinics of the teaching hospitals in Jos and Ibadan. EngenderHealth is collaborating with APIN to strengthen the referral linkages within the health facilities for voluntary counseling and testing services. It also assists APIN in establishing multiple counseling outlets in these health facilities by training other health care providers who will provide counseling and referral to the voluntary counseling and testing services within the facilities.

Prevention of Mother-to-Child Transmission

Activities in this area have begun in a few pilot centers across the country. Guidelines for implementation have been developed and are now in use. UNICEF, DFID, CDC, and FHI are the main supporters of this activity. The Bill and Melinda Gates Foundation is contributing to these activities through a grant to Harvard University in Lagos, and Oyo and Plateau States. Drugs for

prevention of mother-to-child transmission activities are procured as part of the government's antiretroviral drug program (see below).

Access to Drugs

The government has embarked on one of the largest access to antiretroviral drug programs in the world. Currently, a pilot program on the use of these drugs has begun, and it is anticipated that 250 persons living with HIV/AIDS will benefit from these drugs in each of the 25 designated pilot centers during the initial phase. Thereafter, it is anticipated that a minimum of 10,000 out of an estimated 3.1 million persons living with HIV/AIDS will be treated with these drugs. How long this program will continue is uncertain. Draft guidelines on drug administration, distribution, monitoring, and evaluation have been developed and will be refined at the end of the pilot phase. Drugs now available that can be used by infected individuals to combat opportunistic infections and other ailments are in short supply, are not always affordable, and are often adulterated and of poor quality. Major pharmaceutical companies with offices in Nigeria have announced major reductions in the cost of these drugs, however, these reductions still fall far short of what is affordable by the majority of those infected. Thus, infected individuals still largely patronize traditional medicine practitioners and faith healers.

Care and Support for Persons Living with and Affected by HIV/AIDS, Including Orphans and Vulnerable Children

Care and support for people living with HIV/AIDS, their families, and their communities were until recently neglected components of the HIV/AIDS programs in Nigeria. Patients with AIDS were either abandoned in health care facilities or isolated at home and received no form of care until they died.

The HEAP project is developing guidelines for appropriate and effective care for persons living with HIV/AIDS who are also infected with tuberculosis, training health workers and infected individuals, and establishing parameters on home-based care. Guidelines will also be developed to assist communities in designing welfare schemes for orphans and family members affected by AIDS.

USAID made available $1.8 million in the 1999–2001 period to CEDPA, in partnership with Africare, for the enhanced care of orphans and vulnerable children. Projects are ongoing in Benue and Rivers States. Approximately 1850 orphans and vulnerable children are receiving health care, education, and vocational training. Nearly 850 households with orphans and vulnerable children also receive care and support through income-generating activities, micro-credit, and vocational training.

Family Health International has just completed an assessment study of orphans and vulnerable children in six states. Pathfinder is also involved in care and support activities, however, these activities are dispersed in such a way that their effect is minimal.

The lessons learned from these pilot interventions have not yet been documented nor have models been designed that can be scaled up to the point of having an effect on this rapidly growing result of the epidemic.

9. Measuring Impact

It is currently difficult to determine coverage, track results, estimate impact, and identify lessons learned in the USAID-supported HIV/AIDS program. All these elements are essential for strategic scaling up. National seroprevalence and behavior change surveillance systems are inadequate and provide insufficient information at the national and subnational levels to develop and manage programs, set targets, determine impact, and meet USAID and other donor reporting requirements.

Within the activities of implementing partners, reporting on coverage and impact of interventions is generally weak. Many of the indicators reported are process indicators (e.g., "conducted two sensitization seminars for commercial sex workers and their clients"). Many of the measures of coverage are presented without any context, such as "number of peer educators trained" or "number of orphans receiving educational support." Without defined target populations or numbers of those at risk, it is difficult to judge their significance.

10. Demands on Public Health and Nutrition and Other Mission Staff

Because of the value attached to the U.S./Nigeria relationship, USAID/Nigeria receives a large number of visits from senior U.S. officials and other prominent Americans, and a large of number of unsolicited proposals from interested U.S. groups.

Although Mission public health and nutrition staff are quite competent, they will not be able manage these visitors nor to adequately manage the growing HIV/AIDS portfolio, which may double in FY 2003, nor to meet the many demands for information and reporting.

VII. RECOMMENDATIONS FOR PRESENT AND FUTURE DIRECTIONS

Based on the findings of the strategy assessment team, we offer two sets of recommendations, one to be considered for immediate follow-up and the other to guide the work of the strategy design team.

A. Recommendations for immediate implementation

1. USAID should convene a facilitated joint planning meeting of all implementing partners funded under the HIV/AIDS subprogram in Kano State, Lagos State, or both to prepare a work plan and budget proposal for FY 2003. The objective of the meeting should be to develop a common and mutually reinforcing set of strategies and activities and to agree to common indicators of impact.

2. Likewise, facilitated meetings for implementing partners working in common programmatic areas, such as providing guidance and services for commercial sex workers, advocacy, and orphans and vulnerable children, should be convened in order to share lessons learned, to promote collaborative interventions, and to build on the strengths and comparative advantage of each partner.

3. USAID should continue and expand the mapping exercises begun in the draft MEDS report and this report in order to identify which partners are working in what programmatic areas and states, and with what resources. A few sample tables are included in Annex III.

4. Available seroprevalence sentinel and behavioral surveillance data and corresponding methodologies should be reexamined in a workshop/experts meeting.

5. The Mission should work closely with the newly created monitoring and evaluation working group and other donors to ensure that a feasible and technically sound approach is followed to identify national indicators and to design corresponding surveys and other surveillance approaches. Sentinel survey plans, methodology, resources, and timing should be reviewed with CDC and other donors to ensure that sufficient resources are allocated to ensure timely and accurate reporting. The Mission is also encouraged to make a final decision on the implementing partners to conduct the behavioral surveillance survey in the general population and among high-risk groups.

B. Recommendations for Implementation Before Strategy Design

1. Programmatic and geographical priorities for the next program should be reaffirmed in light of the outcome of the workshop/expert meeting review of the available seroprevalence and behavioral surveillance data and methodologies.

2. Implementing partners should be encouraged to share HIV/AIDS operational experience in order to play to their comparative advantage and to minimize a multitude of similar but uncoordinated programs.

3. A U.S. Government coordinating committee for HIV/AIDS, under the chairmanship of USAID, should be convened to strengthen overall coordination and to maximize the effect of all U.S. Government partners involved in HIV/AIDS activities.

4. Because behavior change intervention figures so prominently in the HIV/AIDS subprogram, it is recommended that a common set of behavior change intervention objectives and indicators be established that reflect both the cultural diversity of Nigeria and that conform to USAID's global reporting requirements. Lessons learned from interventions need to be established and documented. Stronger behavior change intervention planning and programming skills need to be fostered with all imple-

menting partners. Common evaluation tools need to be established and used in order to measure and appropriately and accurately monitor behavior change.

5. To the extent possible, prevention, care, and support interventions undertaken in focal states should be expanded with existing or proposed voluntary counseling and testing centers.

6. Although program interventions to date for orphans and vulnerable children and their caregivers are scattered and limited, they should be documented and evaluated in an attempt to identify the key elements that can be scaled up.

7. In order to measure and monitor program impact, the implementing partners should be required to estimate the size of target populations at local government authority, state, and national levels, and to report on a semiannual basis changes in coverage and behavior change of the population served.

8. Priority should be given to alternative approaches to meeting the need for a second direct-hire (i.e., a technical advisor for HIV/AIDS and child survival, a personal services contractor, or a new entry professional). Because monitoring and evaluation requirements are expected to grow, the Mission should consider hiring more professional foreign service national or third-country national staff.

REFERENCES CITED

1. Children and Women's Rights in Nigeria: A Wake-up Call. UNICEF. 2001.

2. The World Bank Group. www.worldbank.org/data/. 2001.

3. National Population Commission. The Nigerian Demographic and Health Survey. 1999.

4. Federal Ministry of Health of Nigeria. National HIV/Syphilis Sentinel Sero-Prevalence Survey in Nigeria: A Technical Report by National AIDS/STD Control Programme. 2001

5. http://www.usaid.gov/pop_health/aids/Countries/africa/nigeria.html

6. Federal Ministry of Health of Nigeria. The Prevalence of HIV, Syphilis and STD Syndromes Among PTB/STD Patients and Drug Users in Nigeria. Undated.

7. Family Health International. Behavioural Surveillance Survey Nigeria. 2000.

8. Society for Family Health. National Behavioural Survey I: Brothel-Based Sex Work in Nigeria. September 2001.

9. Interviews with the assessment team.

10. Centers for Disease Control and Prevention. Global AIDS Activity—LIFE Initiative Program Plan. 7 June 2000.

11. National Action Committee on AIDS. HIV/AIDS Emergency Action Plan (HEAP). February 2001.

12. DFID/Nigeria. Promoting Sexual and Reproductive Health for HIV/AIDS Reduction. Programme Memorandum. 19 April 2001.

13. The World Bank. Project Appraisal Document on a Proposed Credit in the Amount of $US90.3 to the Republic of Nigeria for an HIV/AIDS Program Development Project. 18 June 2001.

14. USAID/Nigeria. HIV/AIDS: USAID/Nigeria's Response to the Epidemic: Successes and Challenges. October 2001.

15. Oke, Bennett et al. Jump Start in Nigeria: A case Study. Draft. June 2001.

16. USAID/Nigeria. Assessment of USAID/Nigeria's Implementation Partners' Current Administrative System, the MEDS Project. Draft. February 2002.

ANNEX I
REFERENCES AVAILABLE IN USAID/ABUJA

AFRICARE/Nigeria, Enhanced Care of Orphans: Baseline Survey Report, RECOP Focus Group Discussion (FGD) and Participatory Learning and Action (PLA) Exercise
July 2000, Workshop on Leadership Skills
October 2000, Care Givers Induction Workshop
November/December 2000, Training of Trainers Workshop
June 2001, Quarterly Reports, October 1999–July 2001
Progress Report.

AIDSCAP Condom Social Marketing and Free Distribution Program Report. March 1996.

Ann-Walker J. Evaluation Report of Health Care Providers in Participating Facilities Under the People Living with HIV/AIDS Bridging Program, Kano State/ January 1999.

Anyanti J. Female Condom Acceptability Study, Society for Family Health. Draft.

Anyanti J. Condom Negotiation in Non-Spousal Sexual Relationships in Nigeria. Society for Family Health. Draft.

Armed Forces Programme on AIDS Control. 2000 Armed Forces HIV/AIDS Week, Report of Planning and Implementation. March 20–25, 2001.

Association for Development Options in Nigeria. Improving Parent-Child Communication on Human Sexuality for HIV/AIDS/STIs Prevention, A Research Report for Project FCO No. 89220. March, 1998.

AVSC/EngenderHealth An Integrated Approach to HIV Services. Using an Existing Network of Reproductive Health Providers and Community Leaders to Fight the Epidemic. November 2000. Draft.

CDC. Global AIDS Activity-LIFE Initiative Program Plan: Draft for Review and Discussion. Prepared by the CDC/Nigeria Life Country Assessment Team. June 7, 2000.

CEDPA/Nigeria. Studies and reports on the Vulnerable Children Project. September 28, 2001.

CEDPA. Proposal for CEDPA HIV/AIDS Programs FY 2000 Allocation Submitted to the United States Agency for International Development. July 2000.

CEDPA. Proposal for FP Allocation FY 2000. Submitted to the United States Agency for International Development.

Centre for Development and Population Activities. Quarterly Report, October–December 2001.

Centre for Development and Population Activities. Quarterly Report, October–December 2001.

Zenitgen Limited. Data Analysis and Interpretation Plan. HIV/AIDS/STI Behaviour Surveillance Survey.

DFID/Nigeria. Programme Memorandum. Promoting Sexual and Reproductive Health for HIV/AIDS Reduction. 19 April 2001.

Epidemiological Fact Sheets, Nigeria. UNAIDS. 2000.

Family Health International. AIDS Control and Prevention Project. Final Report for the AID-SCAP Program in Nigeria. April 1992 to July 1997.

Family Health International/Nigeria. Behavioural Surveillance Survey Nigeria 2000. Draft executive summary.

Family Health International/Nigeria. IMPACT Proposal. November 2, 2000.

Family Health International/Nigeria. NGO Assessment Report. 1999.

Family Health International. Behavioural Surveillance Survey Technical Report: Female Sex Workers, Long Distance Drivers and In-School Youths, Nigeria. 2000.

Family Health International/Nigeria. Report of Advocacy Skills Update Workshop in Anambra State. September 2001.

Family Health International/Nigeria. Report of Anambra State FHI/IMPACT Stakeholders Meeting, Awka. March 20, 2001.

Family Health International/Nigeria. Report of Anambra State IMPACT Project Sub-Agreement Development Workshop Report. March/April 2001.

Family Health International/Nigeria. Report of Community Home-Based Care and Support for PLWA in Osun State. March 2000.

Family Health International/Nigeria. Report of HIV/AIDS/STI Intervention with Commercial Sex Workers in Lagos State. Draft: Focus Group Discussions. September 1999.

Family Health International/Nigeria. Report of HIV/AIDS/STI Intervention with In-School Youth, Ekiti and Ondo States. Focus Group Discussions. September 1999. Draft.

Family Health International/Nigeria. Report of HIV/AIDS/STI Intervention with Religious Institutions in Lagos. Focus Group Discussions. September1999. Draft.

Family Health International/Nigeria. Report of HIV/AIDS/STI Intervention with Commercial Sex Workers in Abia State: Focus Group Discussions. October 1999.

Family Health International/Nigeria. Report of HIV/AIDS/STI Intervention with Bank and Financial Institutions Workers in Lagos State. Focus Group Discussions. October 1999. Draft.

Family Health International/Nigeria. Report of HIV/AIDS/STI Intervention with In-School Youth, Anambra, Ebonyi and Enugu States. Focus Group Discussions. October 1999.

Family Health International/Nigeria. Report of HIV/AIDS/STI Intervention with Transport Workers in Anambra State. Focus Group Discussions. October 1999.

Family Health International/Nigeria. Report of In-depth Assessment in Taraba State. February 2001.

Family Health International/Nigeria. Report of In-depth Assessment in Anambra State. April 2001.

Family Health International/Nigeria. Report of Sub-Agreement Development Workshop for NGOs in Lagos State. May 2001.

Family Health International/Nigeria. Report of Taraba State FHI/IMPACT Strategic Planning Meeting. May 2001.

Family Health International/Nigeria. Report of the Stakeholders Meeting, Strategic Planning Meeting and Consensus Position of Participants on the Framework for a Strategic Plan for Kano State. March 2001.

Family Health International/Nigeria. Report of Rapid Assessment in Selected LGAs, Anambra State, Nigeria. November 2000.

Family Health International/Nigeria. Report of Rapid Assessment in Selected LGAs, Taraba State, Nigeria. December 2000.

Family Health International/Nigeria. Report of Rapid Assessment in Selected LGAs, Lagos State, Nigeria. November 2000.

Family Health International/Nigeria. Report of Rapid Assessment in Selected LGAs, Kano State, Nigeria. December 2000.

Family Health International/Nigeria. Report of the In-Depth Assessment of the HIV/AIDS Situation: Lagos State. February 2001.

Family Health International/Nigeria. Report of the Stakeholders Meeting for Lagos State and Strategic Planning Meeting for Lagos State. May 3–7, 2001.

Family Health International/Nigeria. Report of the Sub-Agreement Development Workshop for NGOs in Kano State. March 25–April 4, 2001.

Family Health International. AIDS Control and Prevention Project August 21, 1991 to December 31, 1997. Final Report, Volume 2. December 31, 1997.

Family Health International. Focus On Behavior Change Communication (BCC) Webmaster. March 13, 2002.

Family Health International/Nigeria/IMPACT. Nigeria Quarterly Report for First Quarter FY2000, Reporting Period, October–December 1999.

Family Health International/Nigeria/IMPACT. Nigeria Quarterly Report for Second Quarter FY2000 Reporting Period, January 1–March 31, 2000.

Family Health International/Nigeria/IMPACT. Nigeria Quarterly Report for Third Quarter FY2001 Reporting Period, April 1–June 30, 2001.

Family Health International/Nigeria/IMPACT. Nigeria Quarterly Report for Third Quarter FY2000 Reporting Period, July 1–September 30, 2000.

Family Health International/Nigeria/IMPACT. Nigeria Quarterly Report for First Quarter FY2001 Reporting Period, October 1–December 31, 2000.

Family Health International/Nigeria/IMPACT. Nigeria Quarterly Report for Second Quarter FY2001 Reporting Period, January 1–March 31, 2001.

Family Health International/Nigeria/IMPACT. Nigeria Quarterly Report for First Quarter FY2002 Reporting Period, October 1–December 31, 2001.

Family Health International/Nigeria/IMPACT. Nigeria Quarterly Report for Third Quarter FY 2000 Reporting Period, April 1–June 30, 2000.

Family Health International/Nigeria. HIV/AIDS/STI IMPACT Program: Monitoring and Evaluation Plan. August 2001. Draft.

Federal Ministry of Health, Department of Public Health, National AIDS/STDs Control Programme. A Technical Report on The 2001 National HIV/Syphilis Sentinel Survey Among Pregnant Women Attending Ante-Natal Clinics in Nigeria. December 2001.

Federal Ministry of Health, Department of Public Health, National AIDS/STD Control Programme. The Prevalence of HIV, Syphilis, and STD Syndromes Among PTB/STD Patients and Drug Users in Nigeria.

Group Africa's Report on Society for Family Health, 2nd Cycle Roadshow. Report for SFH Northern Rigs. April 2001.

John D. and Catherine T. MacArthur Foundation. Nigeria Office in Transition: A Newsletter for Nigeria's Population Community. November 2001, Number 3.

Johns Hopkins University Center for Communication Programs. Health Projects Quarterly Report, October–December 2001. January 2002.

Johns Hopkins University Center for Communication Programs. Report on the Workshop for Hotline Counselors. June 2001.

Ladipo O, Ankomah A. The Customer is the King: How Sex Workers Perceive Risk and Negotiate Condom Use in Nigeria. Society for Family Health. Funded by the UK Department for International Development. September 2001.

Ladipo O, Emmanuel JA, Akinyemi Z, Ankomah A. National Behavioural Survey 1: Brothel Based Sex Work in Nigeria, Society for Family Health. Funded by the UK Department for International Development. September 2001.

Madu E. Evaluation Report of Home-Based Care Project at Onistha, Anambra State. Implemented by Focolare Movement. January 1999.

Madu E. HIV/AIDS/STI Intervention with People Living with HIV/AIDS in Onitsha, Anambra State: Report of Formative Study. December 1999.

Madu E. HIV/AIDS/STI Intervention with Religious Institutions in Abia, Anambra and Enugu State. Report of Focus Group Discussion. October 1999.

Madu E. NGO Capacity Building Needs Assessment for IMPACT project Implementation. March 1999.

Mapping Civil Society's Involvement in HIV/AIDS Programme in Nigeria: A Report on Findings in Seven States. Conducted by ActionAid/Nigeria, commissioned by DFID. September 2001.

NACA. HIV/AIDS Emergency Action Plan (HEAP). February 2001.

NACA. HIV/AIDS Emergency Action: A 3-Year Strategy to Deal with HIV/AIDS in Nigeria.

Federal Ministry of Health, National AIDS/STD Control Programme. 1999 HIV/Syphilis Sentinel Sero-Prevalence Survey in Nigeria. Technical Report. November 1999.

National Population Commission. Nigeria Demographic and Health Survey 1999. December 2000.

Nigeria AIDS Alliance. Positive News: Moving from Fear to Hope. Newsletter.

Nigeria HEAP Indicators/UNAIDS M&E Guide Methods Packages. Strategies and Program Phasing for Component B: Specific HIV/AIDS Interventions. February 2002.

Joint Aide-Memoire of the Government, International Agencies, and Non-Governmental Organizations. Nigeria: HIV/AIDS Program Development, Identification Mission (March 27 to April 7, 2000). Revised based on wrap-up discussions. June 30, 2000.

Federal Ministry of Science and Technology, Nigerian Institute of Medical Research. HIV/AIDS in Nigeria, Bibliography Report: National HIV/AIDS Database Project. December 2000.

Oke O, Bennett A, Sklaw K. Jump Start in Nigeria: A Case Study. Family Health International. June 2001.

Oladosu M, Ladipo O. Social Marketing and Communications for Health. Consistent Condom Among Sex Workers in Nigeria. Population Services International Research Division Working Paper 39. 2001.

Omoregie GO. Risk Perception of HIV/AIDS Among Youths in Nigeria. Society for Family Health. Draft.

The Policy Project. HIV/AIDS in Nigeria: Situation, Response, Prospects, and Key Issues. March 2002

Population Services International. Promoting Sexual and Reproductive Health and HIV/AIDS Reduction and Procurement Agent for Nigeria Contraceptives and Communications Against HIV/AIDS. October 1, 2001. Proposal.

Ransome-Kuti O. Who Cares for the Health of Africans: The Nigerian Case, International Lecture Series on Population Issues. Kaduna, Nigeria: The John D. and Catherine T. MacArthur Foundation. March 19, 1998.

Report of the 5-Days Training of Trainers Workshop for Uniformed Services HIV/AIDS Peer Education Held between July 4–8, 2001. July 2001.

Report of the Project Management Training Workshop for AFPAC Coordinators and Committee Members. Family Health International. April 2001.

Rossem VR, Meekers D, Akinyemi Z. Social Marketing and Communications for Health. Condom use in Nigeria: Evidence from two waves of a sexual behaviour and condom use survey. Population Services International Research Division Working Paper 31. 2000.

Rowan M, Sullivan A, Tabansi V. Assessment of USAID/Nigeria's Implementation Partner's Current Administrative System. MEDS Project. February 2002. Draft.

Sadik N. Reproductive Health and Gender Equality in the 21st Century: A New Reality. International Lecture Series on Population Issues. Lagos: The John D. and Catherine T. MacArthur Foundation. July 3, 2000.

Sai FT. Putting People First, International Lecture Series on Population Issues. Lagos: The John D. and Catherine T. MacArthur Foundation. January 19, 1995.

Sanchez, Oscar Arias. A Peace Perspective on Population and Environment, People Before Weapons. International Lecture Series on Population Issues. Mexico City: The John D. and Catherine T. MacArthur Foundation. June 27, 1995.

Sheikh A, Aisha FGD. Consultancy on MUHEWU and NURTW Project in Birnin-Kebbi. October, 1999.

Society for Family Health. Quarterly Report of Activities April–June 2000. Submitted to USAID. August 7, 2000.

Society for Family Health. Quarterly Report of Activities April–June 2001. Submitted to USAID. July 18, 2001.

Society for Family Health. Quarterly Report of Activities January–March 2000. Submitted to USAID. April 15, 2001.

Society for Family Health. Quarterly Report of Activities January–March 2001. Submitted to USAID. April 17, 2001.

Society for Family Health. Quarterly Report of Activities July–September 2000. Submitted to USAID. October 25, 2000.

Society for Family Health. Emergency Contraception in Nigeria: Report of An Exploratory Research Project. Lagos. November 1998.

Society for Family Health. Family Planning Survey: Source, Niger Buse. 1999–2001.

UNAIDS. Annual Report CUM Self Evaluation, December 2000–December 2001.

UNICEF. Children's and Women's Rights in Nigeria: A Wake-up Call. Situation Assessment and Analysis. 2001.

USAID. HIV/AIDS. USAID/Nigeria's response to the epidemic: successes and challenges. October 2001

USAID. Nigeria Country Program Strategic Plan 1993–2000. Lagos: A.I.D Affairs Office. August 1992.

USAID. HIV/AIDS in Nigeria: 2001. Presentation for the Carter/Gates delegation. March 8, 2002.

USAID. Handbook of Indicators for HIV/AIDS/STI Programs. First ed. March 2000.

USAID/Nigeria. FY 2003 Results Review and Resource Request. April 2001.

USAID/Nigeria. Country Strategy. August 1999.

USAID/Nigeria. Performance Monitoring Plans FY 1999 to FY 2003. January 2002.

USAID/Nigeria. PHN Overview Program Description 2001–2002.

USAID/Nigeria. Population /Health/Nutrition Program Description 2001–2002.

ENABLE/Nigeria. The Vulnerable Children's Project.

The World Bank. Project Appraisal Document on a Proposed Credit in the Amount of SDR 71 Million (US$90.3 Million Equivalent) to the Republic of Nigeria for an HIV/AIDS Program Development Project. June 18, 2001.

ANNEX II
USAID IMPLEMENTING PARTNERS

The major USAID implementing partners and their key HIV/AIDS activities are listed here.

Family Health International/IMPACT

The IMPACT project is currently the largest HIV/AIDS program in the USAID/Nigeria portfolio. ($12.4 million for the period 1999–2001) and is implemented by Family Health International. The bulk of IMPACT funding (70 percent) is in the form of 50 subcontracts to local nongovernmental and community-based organizations for community-level programs in nine states. The balance of funding is for national activities, including support to the condom social marketing program and technical assistance. The key program strategies of IMPACT are capacity building for HIV programming at national and subnational levels and behavior change communication interventions.

High-risk populations, specifically commercial sex workers, long-distance drivers, military, police, and in-school and out-of school youth, are targeted for prevention activities in order to raise awareness, increase knowledge, and achieve behavior change. A limited number of care and support programs address issues faced by persons living with and affected by HIV/AIDS. Support to the local government through local AIDS action committees is intended to increase political will and the commitment of policy makers.

AIDSMARK

The AIDS social marketing project (AIDSMARK) had funding of $4.5 million for the period 1999 to 2001. It is implemented by Population Services International in collaboration with its local Nigerian partner, Society for Family Health. PSI/SFH use behavior change communication strategies to create national demand for condoms and other HIV/AIDS and reproductive health services.

The program, Promoting Sexual and Reproductive Health for HIV/AIDS, is jointly funded by the British Department for International Development and USAID. It is an excellent model for donor collaboration. The program consists of social marketing, a behavior change strategy, and community-based work to contribute toward a 25 percent reduction in HIV prevalence, especially among people aged 15–24 years, by 2015. The behavior change strategy is intended to increase awareness and knowledge of reproductive health and HIV/AIDS, while increasing availability and affordability of products and services that promote prevention.

The POLICY Project

The Policy project is implemented primarily by the Futures Group ($2.2 million from 2000 to 2001). It works primarily at the national level to build a supportive policy environment for HIV/AIDS programs through the development and implementation of policies that facilitate an effective national and subnational response to the epidemic. Activities include development of

HIV/AIDS policies in the civilian and military population, development of national strategic plans for HIV/AIDS, research on the effect of HIV/AIDS on vulnerable people, and use of accurate information for advocacy and planning.

CEDPA and Africare

The Center for Development and Population Activities (CEDPA) and Africare implement a project for the enhanced care of orphans and vulnerable children in selected communities ($1.8 million from 1999 to 2001). The goal of this project was to improve the quality of life of AIDS orphans—children under age 15 who have lost one or both parents to AIDS. The distinction between true AIDS orphans and other orphans is not emphasized in order to avoid stigmatization and discrimination. Activities include educational assistance and life-skills training, income-generating activities for primary caregivers, and community mobilization of community-based organizations to serve as advocates for positive policy and social change for persons living with and affected by HIV/AIDS.

JHU/CPP

Johns Hopkins University/Center for Communication Programs, in collaboration with the Nigerian Youth Empowerment Foundation and a network of youth-serving nongovernmental organizations in Lagos State, sponsors an HIV/AIDS hotline ($0.775 million for 2000 to 2001). "Break the Silence" is a 24-hour telephone hotline referral system for youths and young adults in Lagos State. The hotlines are complemented by radio and television jingles and a half-hour interactive radio call-in program. The hotline provides information on confidential counseling and testing and related reproductive health issues. The project also works to enhance the capacity of youth-serving organizations in interpersonal communication and counseling.

EngenderHealth

EngenderHealth has just begun. It is a small project ($0.1 million for 2001) that will begin working to integrate HIV/AIDS into the population, health, and nutrition office's family planning/reproductive health subprogram.

Measure I and Measure II

Measure I and II are performing discrete tasks in FY 2001 ($0.125 million for 2001) by undertaking a secondary analysis and zonal dissemination of the 2001 Demographic and Health Survey, and providing technical assistance in developing a performance monitoring plan for population, health, and nutrition activities.

ANNEX III
SAMPLE TABLES FOR MAPPING IMPLEMENTING PARTNERS AND ACTIVITIES

1. Current Resource Allocation Table for Implementing Partner X

	Anambra	Lagos	Taraba	Etc.	…	Total
Prevention	% budget Prevention in Anambra					
VCT						
MTCT						
Care and Support	% budget Care and Support in Anambra					
OVC						
PLWA						
Etc.						
M&E	% budget M&E					
TOTAL $	Total in Anambra					

Repeat this table for planned budget in next year

2. Current Coverage Matrix for Implementing Partner

STATES

	Anambra		Lagos etc….						
	Pop	Total LGAs	Lagos	Total LGAs				…	Total
Prevention	No. of LGAs covered								
VCT									
MTCT									
Care and Support									
OVC									
PLWA									
Etc.									
M&E									
• •									

Repeat for planned coverage

Definitions: LGA, local government authority; M&E, monitoring and evaluation; MTCT, mother-to-child transmission; OVC, orphans and vulnerable children; PLWA, persons living with HIV/AIDS; VCT, voluntary counseling and testing;

ANNEX IV
ANNOTATED EPIDEMIOLOGICAL BIBLIOGRAPHY

The first case of AIDS was reported in Nigeria in 1986. Since then, many epidemiological surveys have been carried out by individuals and institutions such as universities and hospitals at the local, state, and federal levels.

This bibliography of HIV/AIDS epidemiology in Nigeria was developed as part of a strategic assessment for USAID/Nigeria.

The articles included in this annex were drawn from Medline and journal websites. In addition, references for which abstracts could not be obtained were included from the Nigerian Institute for Medical Research.

The information is organized under the following five headings:

I. Sentinel surveillance and seroprevalence surveys.
II. Mode of transmission of HIV/AIDS.
III. Clinical disease of HIV/AIDS.
IV. Pediatric HIV/AIDS.
V. Others.

I. SENTINEL SURVEILLANCE AND SEROPREVALENCE SURVEY

A. Sentinel Surveillance /Seroprevalence Survey in Pregnant Women

Prevalence of human immunodeficiency virus (HIV) antibody among apparently healthy pregnant women in Nigeria.
Nnatu SN, Anyiwo CE, Obi CL, Karpas A
International Journal of Gynaecology and Obstetrics. 1993 Feb; 40(2):105-7

OBJECTIVE: To determine the prevalence of human immunodeficiency virus (HIV) in pregnancy in our community. METHOD: A prospective study on 250 pregnant women currently attending the antenatal clinic at the Lagos University Teaching Hospital was carried out in 1991. RESULT: Results obtained showed that of the 250 pregnant women screened, only two (0.8%) were sero-positive for HIV. This indicates the risk of vertical or materno-fetal HIV transmission in our community and underscores the need for urgency for prospective monitoring of infants born to HIV sero-positive women. CONCLUSION: Although the prevalence rate of HIV seropositivity amongst the otherwise healthy Nigerian pregnant women is only 0.8%, we advocate universal screening of HIV during pregnancy.
PMID: 8094677 [PubMed—indexed for MEDLINE]

A comparison of human immunodeficiency virus (HIV) seropositivity and hepatitis B surface antigenemia (HBs Ag) among the same group of apparently healthy pregnant women in Lagos, Nigeria: a preliminary report.
Obi CL, Anyiwo CE, Nnatu SN, Agbonlahor DE, Esumeh FI, Karpas A
Viral Immunology. 1993 Spring; 61(1):43-7

Two hundred and fifty apparently healthy pregnant women attending the Obstetrics and Gynecology Clinic of the Lagos University Teaching Hospital (LUTH), Lagos, Nigeria were screened for a comparison of the prevalence of HIV seropositivity and hepatitis B surface antigenemia (HBs Ag) amongst them. The Karpas AIDS cell test for HIV seropositivity and Bioman Hepatitis test kits were used as described by the manufacturers. HIV sero-positive cases were confirmed using the Western blot test. Results revealed that out of the 250 pregnant women screened, 2 (0.8%) and 11 (4.4%) were HIV-1 and HBs Ag sero-positive, respectively. However, the same 2 pregnant women now constituting 2 (18.2%) of the 11 HBs Ag positive pregnant women were simultaneously HIV-1 sero-positive. Antibody to HIV-2 was not recorded in all HIV sero-positive cases. This is the first report on the simultaneous prevalence of HBs Ag and HIV seropositivity among apparently healthy pregnant women in Lagos, Nigeria.
PMID: 8476507 [PubMed—indexed for MEDLINE]

HIV Sentinel Surveillance in Ibadan/Ogbomosho Zone of Oyo State: A pilot study
Ekweozor CC, Olaleye OD, Tomori O, Saliu I, Essien EM
Nigerian Medical Journal. 1993 Jan–Feb Vol. 24.

Sero-Epidemiology of Human Immnodeficiency virus infection in Borno State of Nigeria by sentinel surveillance.
Harry TO, Ekenna O, Chikwem JO, Mohammed I, Sakwa M, Adeyera SA, Zacchariah R, Moses AE, Ola TO, Williams EE
Journal of Acquired Immune Deficiency Syndromes 1993 Vol. 6.

HIV infection among pregnant women: A worsening situation in Maiduguri, Nigeria
Harry TO, Idrisa A
Tropical and Geographical Medicine. 1994;46(1):46-7.

Prevalence of Human Immnodeficiency Virus (HIV) Infection among pregnant women attending antenatal clinic in Maiduguri, North Eastern Nigeria.
Harry TO, Kyari O, Mohammed I
Tropical and Geographical Medicine. 1992 Jul;44(3):238-41.

Prevalence of Human Immunodeficiency Virus (HIV) antibody among apparently healthy pregnant women in Nigeria.
Nnatu SN, Anyiwo CE, Pbi CL, Karpa
International Journal of Gynecology and Obstetrics, 1993 Vol. 40.

Human Immunodeficiency virus infection in pregnant women in Nigeria.
Sagay AS, Imade GE, Nwokedi EE
International Journal of Gynecology and Obstetrics, 1999/Aug. Vol. 66.

HIV Sero-prevalence in women of child bearing age in Benin City, Nigeria.
Offor E, Okolo AA
African Journal of Reproductive Health, 1997 Sept. Vol. 1.

Incidence of HIV in Calabar Municipality.
Afungang, Julius Ini
Student M.Sc. Project. University of Calabar.*

Prevalence of HIV infection in Borno State of Nigeria.
Chikwem JO, Mohammed I, Oyebode Ola T, Bajani M, Mambula S, Gashau W
East African Medical Journal, 1988 May Vol. 65.

Increasing prevalence of HIV infection in Nigeria
Danlami Arabs Rukujei, Derex-Brigs IE, Zwandor AC, Gboun M
12th World AIDS Conference, Geneva. Book of Abstracts. 1998/June–July.

HIV/AIDS is on a steady rise in Nigeria.
Dereks-Briggs, I
Women's Health Forum, 1999 Vol. 4.

B. Seroprevalence in Other Populations

Trend of HIV sero-positivity among visa applicants in Lagos, Nigeria
Akinsete I, Akanmu AS, Okany CC
10th International Conference on AIDS and STDs in Africa Abidjan, Cote D'Ivoire
Abstract/Proceedings Book Dec 1997

Human Immunodeficiency Virus Antibody Positivity in Cancer Patients Undergoing Radiotherapy in Ibadan: Clinical Findings, Pathogenesis and Therapy.
Campell OB, Adu FD, Danwatta FD
Nigerian Medical Journal, 1997 May–June Vol.32.

Sero-prevalence of HIV infection among street children in Maiduguri.
Edunmenang D, Okpudo-Itata Harry TO, Bulterys M, Abimku A
12th World AIDS Conference, Geneva. Book of Abstracts. July 1998

HIV-1 sero-epidemiological profile in age groups and sexes in Benin City, Nigeria.
Eghafona NO, Phillips MN, Uraih N
Tropical Journal of Medicine, 1993 Vol. 45

Incidence of HIV positivity in Trauma Victims over the age of 20 years.
Folope IA, Adedeji OO, Eyesan SU
The Nigerian Post-Graduate Medical Journal, 1998 Sept. Vol. 5

Rural HIV transmission in Northern Nigeria.
Garba ML
International Conference on AIDS in Yokohama, Japan. 1994 Aug. Vol. 10.

HIV-1 infection among spouses of HIV-1 positive symptomatic patients in Maiduguri, Nigeria.
Harry TO, Gashau W, Ango SS
Xth International Congress of Virology. Book of Abstracts, 1996.

HIV prevalence trend in female patients in Benin City, Nigeria.
Offor E, Unigbe E, Egbagbe E, Isah A
10th International Conference on AIDS and STDs in Africa, Abidjan. Cote D'Ivoire. Dec 1997

C. Seroprevalence Survey in High-Risk Groups

Human immunodeficiency virus type 1 (HIV-1) infection among female prostitutes in Borno State of Nigeria: one-year follow-up.
Chikwem JO, Mohammed I, Ola T
East African Medical Journal. 1989 Nov; 66(11):752-6

Serological investigations on female prostitutes resident in Borno State in northeastern Nigeria have shown that the seroprevalence of HIV-1 infection has increased 9.81% in one year. The highest sero-prevalence rates were found amongst prostitutes who had not benefited from previous health education campaigns. Prostitution appears to be on the increase in spite of AIDS probably because of the difficulty in finding alternative means of making a living. Attempts to halt the spread of HIV infection are hampered by the fact that most prostitutes are indifferent to the use of condoms and do not appreciate the importance of protecting themselves from the risks of HIV infection. Their frequent mobility also poses a problem as it makes it difficult for them to benefit from health education campaigns.

The prevalence of HIV-1 infection among female prostitutes in Borno State (as indeed in other States in Nigeria) is likely to rise sharply in the next few years unless serious efforts are made to intensify health education campaigns targeted at the high-risk groups.
PMID: 2606018 [PubMed—indexed for MEDLINE]

Human Immunodeficiency virus type 1 (HIV-1) infection among female prostitutes in Borno State of Nigeria: One-year follow-up.
Chikwem JO, Mohammed I, Ola T
East African Medical Journal. 1989 Nov Vol. 66.

Demographic characteristics of retroviral infections (HIV-1, HIV-2, and HTLV-1) among female professional sex workers in Lagos, Nigeria
Dada AJ, Oyewole F, Nasidi, Harris B, Levin A, Diamondatone L, Quinn TC, Blattner WA
Journal Acquired Immune Deficiency Syndromes. 1993 Dec;6(12):1358-63.

Prevalence Survey of HIV-1, HIV-2 infections in female prostitutes in Lagos State, Nigeria.
Dada Abimbola J, Ajayi J, Ransome Kuti O, Williams G, Abebe E, Levin A, Quinn T, Blattner W
VIIth International Conference on AIDS Florence Italy, Abstract Book 1991/June Vol. 1.

HIV and HBV serostatus of non-intravenous drug abusers in Lagos, Nigeria.
Ekpo N, Sasegbon H, Oyewole F
Nigerian Medical Journal, 1995 Jul–Aug. Vol. 29.

Drug use and HIV profile of "Area Boys and Girls" (ABG) in a Rehabilitation Programme in Lagos, Nigeria.
Inem V, Ekpo M, Agomoh A, Agbo S, Doherty T, Yakubu Z
Nigerian Quarterly Journal of Hospital Medicine, 1999 Jan–Mar. Vol. 9.

HIV sero-positivity among female prostitutes and non-prostitutes; obstetric and perinatal implications.
Obi CL, Ogbonna BA, Igumbor EO, Ndip RN, Ajayi AO
Viral Immunology, 1993 Fall; Vol. 6.

D. Seroprevalence Survey in Blood Donors

Prevalence of transmissible blood infections among blood donors at the University of Maiduguri Teaching Hospital, Maiduguri, Nigeria.
Chikwem JO, Mohammed I, Okara GC, Ukwandu NC, Ola TO
East African Medical Journal. 1997 Apr; 74(4):213-6

Before the advent of the acquired immune deficiency syndrome (AIDS), many countries of the world transfused blood without seriously considering the potential risks of transmission of infectious agents. Even after it was shown that the human immunodeficiency virus (HIV) could be transmitted through blood and blood products, many hospitals and clinics in Nigeria still continue to transfuse unscreened blood. This study was therefore initiated to highlight the risks of transmitting infectious agents through blood transfusion and the category of infectious agents, which could be transfused in blood in this area. A total of 364 healthy blood donors were counselled, bled and screened for HIV-1, HIV-2, HBsAg, *Treponema pallidum, Plasmodium falciparum* and microfilaria. The results show that the three most common infections transmissible through blood transfusion are Hepatitis B(14.9%), HIV-1 (5.8%) and *P. falciparum* (4.1%). Thirteen of the 364 blood donors (3.6%) and antibodies to *T. pallidum*. There were no donors with HIV-2 or filarial infection. Infection of donors by hepatitis B virus (HBV), *T. pallidum* and HIV-1 was not significant dependent on promiscuity, polygamy, previous blood transfusion or local surgery. However, there was a significant difference between donors with no risk factors

and those with risk factors with regard to seroprevalence to HBV, *T. pallidum* and HIV-1 (p = 0.0053). The results confirm that transfusion of unscreened blood carries severe risks of transmitting serious infectious agents and that is a need to enforce laws for transfusing blood in Nigeria. Meanwhile, in the absence of screening facilities, proper counselling of blood donors in order to ascertain their risk behaviour should be used to select donors and reduce this risk.
PMID: 9299819 [PubMed—indexed for MEDLINE]

Changes in HIV seroprevalence among blood donors in Benin City, Nigeria.
Offor E, Okafor L, Osunde J
AIDS. 1994 Sep; 8(9):1352-4

Seroprevalence study of HTLV-1 and HIV infection in blood donors and patients with lymphoid malignancies in Lagos, Nigeria.
Analo HJ, Akanmu AS, Njoku OS, Okany CC
12th World AIDS Conference, Geneva. Book of abstracts. 1998/June–July Vol.

Prevalence of transmissible blood infections among blood donors at the University of Maiduguri Teaching Hospital, Maiduguri. Nigeria
Chikwem JO, Mohammed I, Okara GC, Ukwandu NC, Ola TO
East Africa Medical Journal, 1997 April Vol. 74

Prevalence of HI-1 and Hbs Ag in Normal Blood Donors in Ile Ife, Nigeria.
Durosinmi NA, Alabi OA, Nwububa DA, Soyinka OO
Nigerian Medical Journal, 1992 Sept–Oct. Vol. 21

Epidemiological study of the sero-prevalence of hepatitis B surface antigen (HbsAg) and HIV-1, in blood donors.
Halim NKB, Offor E, Ajayi OI
Nigerian Journal of Clinical Practice, 1999 Dec; Vol. 2.

Prevalence of human immuno deficiency virus among blood donors: Comparison between Nigeria and Uganda.
Wakwe VC, Ejele OA
Nigerian Journal of Clinical Practice, 1998 Dec; Vol. 1.

E. Seroprevalence Survey in Tuberculosis Patients

Sero-prevalence of HIV antibodies in tuberculosis patients in Ile-Ife, Nigeria.
Onipede AO, Idigbe O, Ako-Nai AK, Omojola O, Oyelese AO, Aboderin AO, Akinosho, Komolafe AO, Wemambu SN
East African Medical Journal. 1999 Mar; 76(3):127-32

BACKGROUND: The acquired immunodeficiency syndrome (AIDS) is of major public health concern worldwide more so in sub-Saharan Africa where there is an upsurge in the incidence of the disease. Reports from developed countries have shown that a close link exists between the

human immunodeficiency virus (HIV) and pulmonary tuberculosis. No such study has ever been carried out in Ile-Ife, Nigeria. OBJECTIVE: The study was designed to determine the prevalence of HIV infection among randomly selected tuberculosis patients seen in a Nigerian chest clinic using third generation ELISA kits that detect HIV-1 and HIV-2 strains. RESULTS: Of the 79 subjects with confirmed active tuberculosis, 12.7% tested positive for HIV antibodies compared with 2.0% of subjects without tuberculosis designated as the control group—a value that is statistically significant ($p < 0.05$). Farmers, artisans and students contributed a large proportion of the seropositive sera. Although the seroprevalence rate of 12.7% is low compared with the rates from eastern and southern African countries, this value was threefold higher than 5.2% value reported in metropolitan Lagos—suggesting concern about the spread of HIV in a semi-urban centre such as Ile-Ife. CONCLUSION: This study suggests that a close link exists between active tuberculosis and HIV infection in Ile-Ife, Nigeria which underscores the urgent need to monitor tuberculosis patients as the increase in the rate of new cases may indicate the spread of HIV infection. The study also recommends that an aggressive public awareness programme be undertaken to enlighten communities about the risk of TB/HIV infection.
PMID: 10442110 [PubMed—indexed for MEDLINE]

Prevalence of human immunodeficiency virus (HIV) antibodies in tuberculosis patients in Lagos, Nigeria
Idigbe EO, Nasidi A, Anyiwo CE, Onubogu C, Alabi S, Okoye R, Ugwu O, John EK
Journal of Tropical Medicine and Hygiene. 1994 Apr; 97(2):91-7

To establish the prevalence of HIV antibodies in patients with pulmonary tuberculosis, 536 new cases presenting with symptoms of bronchopulmonary disorders were randomly selected from the six referral chest clinics in Lagos and screened for tuberculosis and HIV infections. Sputum and serum samples were obtained from all the patients. The sputum samples were examined for acid-fast bacilli (AFB) by both microscopy and culture. The sera were screened for HIV-1 and HIV-2 antibodies by ELISA and confirmed by Western blot (WB). Of the 536 cases studied, 188 (35%) were positive for AFB while 13 (2.4%) were seropositive for HIV. Correlation between the AFB and HIV results revealed that 10 (5.3%) of the 188 AFB positives were also seropositive for HIV as compared to 3 (0.9%) in the 348 AFB negative cases. The difference in the HIV seroprevalence rates in the two groups was statistically significant ($P < 0.001$). The recorded higher frequency of HIV infections in the AFB positives strongly suggested some level of interaction between TB and HIV infections in Lagos. Infections with HIV-2 were more prevalent than HIV-1 in the patients with HIV and TB. No case of dual infection with HIV-1 and HIV-2 was recorded in this group of patients. However, in the 3 HIV-seropositive patients within the control group (non-tuberculosis patients), 2 (67%) were positive for both HIV-1 and HIV-2 while 1 (33%) was positive for HIV-2 only. *Mycobacterium tuberculosis* (70%), *M. avium* (20%) and *M. kansasii* (10%) were the mycobacteria strains isolated from the HIV/TB infected patients.(Abstract truncated at 250 words)
PMID: 8170009 [PubMed—indexed for MEDLINE]

Prevalence of human immunodeficiency virus (HIV) antibodies in tuberculosis patients in Lagos, Nigeria.
Idigbe EO, Nasidi A, Anyiwo CE, Onubogu C, Alabi S, Okoye R, Ugwu O, John EK.
Journal of Tropical Medicine and Hygiene. 1994 Apr;97(2):91-7.

F. Seroprevalence Survey in STI Patients

Seroprevalence study of HIV-I, HIV-II and HTLV-I among patients at the Dermato-Venereology Clinic of the Lagos University Teaching Hospital.
Olumide YM, Dada AJ, Sogbanmu IB, Aruna GA
International Journal of Dermatology. 1997 Oct; 36(10):741-4

BACKGROUND: Seroprevalence studies of HIV-I and HIV-II that have been reported in Nigeria were among commercial sex workers and blood donors. There are no data from STD patients and dermatologic patients. METHODS: A seroprevalence study of HIV-I, HIV-II and HTLV-I was prospectively conducted among STD clinic attendees and among patients with dermatoses which have been linked with HIV disease. The studies were done in 1992 and 1994. RESULTS: Some patients had more than one seropositive type. In 1992, the percentages of seropositive results to HIV-I, HIV-II and HTLV-I were 31, 19 and 50, respectively, and in 1994 the percentages of HIV-I and HTLV-I were 65 and 35, respectively. CONCLUSIONS: Patients should be routinely screened for HTLV-I, in addition to HIV-I and HIV-II, among blood donors and also neurology clinic attendees in Nigeria. They should also be screened for retroviral infections when they present with dermatoses clinically suggestive of papular urticaria, onchodermatitis, or papulonecrotic tuberculids.
PMID: 9372347 [PubMed—indexed for MEDLINE]

Clinico-epidemiological patterns of HIV infection in STD patients in Ibadan.
Ekweozor CC, Olaleye OD, Tomori O, Saliu I, Essien EM, Bakare RA, Oni AA, Oyewo OO, Okesola AO, Onyemenem TN, et al.
African Journal of Medicine and Medical Sciences. 1995 Dec; 24(4):321-7

The HIV-seropositive subjects identified among the STD Clinic patients seen at a Special Treatment Clinic between 1989 and 1990 were studied to determine the epidemiological and clinical trends of HIV infection in these patients, and to demonstrate any association between the STDs and HIV-seropositivity. Thirty-seven out of the 581 patients investigated have been confirmed HIV-seropositive by Western blot. The prevalence of HIV infection was 6.4%. Anti-HIV-1 antibody prevalence (3.6%) was higher than that of anti-HIV-2 antibody (2.8%). The age-range of the patients investigated was from 2 weeks to 49 years, and the HIV-seropositive cases were in the age-range 15–49 years, with peak incidence of HIV infection in the 21–30 years age-bracket. The male:female ratio of HIV-seropositive subjects was practically the same (1.01:1). HIV antibody-positive cases consisted of residents from towns in both Northern and Southern Nigeria. Only one of the HIV antibody-positive cases has developed clinical AIDS-progressive weight loss fourteen months after he was found positive for HIV antibody.
PMID: 8886145 [PubMed—indexed for MEDLINE]

Clinical-epidemiological patterns of HIV infection in STD patients in Ibadan.
Ekweozor CC, Olaleye OD, Tomori O, Saliu I, Essien EM, Bakare RA, Oni, AA, Oyewo OO, Okesola AO, Onyemenem TN, Ajayi IO
African Journal of Medical Sciences. 1995 Dec;24(4):321-7.

G. Distribution of HIV Serotype

Predominance of subtype A and G HIV type 1 in Nigeria, with geographical differences in their distribution.
Peeters M, Esu-Williams E, Vergne L, Montavon C, Mulanga-Kabeya C, Harry T, Ibironke A, Lesage D, Patrel D, Delaporte E
AIDS Research and Human Retroviruses. 2000 Mar 1; 16(4):315-25

The purpose of this study was to generate data on the relative prevalences of the HIV-1 subtypes circulating in Nigeria. A total of 252 HIV-1-positive samples collected during an epidemiologic survey conducted in April 1996 were genetically characterized by HMA (heteroduplex mobility assay) and/or sequencing. Samples were collected in Lagos, Calabar, Kano, and Maiduguri. Overall, the predominant env subtypes were A (61.3%) and G (37.5%). Subtype A is more prevalent in the south ($p < 0.001$), about 70% in Lagos and Calabar, whereas a quarter of the samples were classified as subtype G in these states. In contrast, subtype G is predominant in the north ($p < 0.001$), representing 58% of the samples in Kano. In the northeastern region, Maiduguri, almost similar proportions of subtype A and G were seen, 49 and 47.4%, respectively. A total of 37 samples were also sequenced in the p24 region from the gag gene; 13 (35%) had discordant subtype designations between env and gag. The majority of the gag (12 of 17) and env (14 of 22) subtype A sequences clustered with the A/G-IBNG strain. Within subtype G, three different subclusters were seen among the envelope sequences. These different subclusters are observed among samples obtained from asymptomatic individuals and AIDS patients from the four Nigerian states studied. In conclusion, we observed a limited number of HIV-1 subtypes circulating in Nigeria, with subtypes A and G being the major env subtypes responsible for the HIV-1 epidemic. Nevertheless, the high rate of recombinant viruses (A/G) and the different A/G recombinant structures indicate a complex pattern of HIV-1 viruses circulating in this country.
PMID: 10716369 [PubMed—indexed for MEDLINE]

Seroprevalence of HIV-1, HIV-2, and HIV-1 group O in Nigeria: evidence for a growing increase of HIV infection.
Esu-Williams E, Mulanga-Kabeya C, Takena H, Zwandor A, Aminu K, Adamu I, Yetunde O, Akinsete I, Patrel D, Peeters M, Delaporte E
Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology. 1997 Nov 1;16(3):204-10

To determine current data on HIV infection and to further confirm the presence of HIV-1 group O infection in Nigeria, 2300 samples from five states were tested for the presence of HIV antibody. A convenience sampling was obtained from pregnant women, tuberculosis (TB) patients, commercial sex workers (CSWs), blood donors, patients with sexually transmitted diseases (STDs), patients with skin diseases, male clients of CSWs, outpatients suspected to have AIDS,

truck drivers, and community dwellers. With the exception of pregnant women, the HIV prevalences in all these groups were high: 60.6% in CSWs, 16.2% in TB patients, 7.7% in blood donors in some states, and 16% in the rural area of Kano State. Male clients of CSWs, truck drivers, and STD patients had prevalences of 7.8%, 8.6%, and 21.2%, respectively. Regional differences in relation to HIV prevalences were observed; HIV-2 and most of the HIV-1/2 infections were found in the southern states of Nigeria. Higher HIV prevalences were observed in the north-northeast in pregnant women, TB patients, and CSWs, but for blood donors, higher rates were seen in the southeast-southwest. One asymptomatic 50-year-old woman, a community dweller in Kano, was identified to be HIV-1 group O-positive. Compared with data from national surveillance studies in 1991/1992 and 1993/1994, a substantial increase in HIV infection was observed. Our results show a growing incidence of HIV infection in Nigeria and suggest the presence of a rural HIV epidemic. The identification of HIV-1 group O in Kano shows that this virus strain is geographically widespread in Nigeria.
PMID: 9390573 [PubMed—indexed for MEDLINE]

Incidence of dual presence of antibodies to HIV1 and HIV2 in seropositive cases seen in Ibadan, Nigeria.
Shokunbi WA, Saliu I, Essien EM
African Journal of Medicine and Medical Sciences. 1995 Sep; 24(3):249-53

Between July 1987 and December 1988, sera from 6,385 individuals were screened for HIV1 but only 1,861 of these samples were screened for HIV2. Majority of those screened for HIV infection (89.7%) were blood donors, 4.9% were international travellers/volunteers, 3.8% were patients (i.e. those with haematological malignancies, multiply transfused patients and those suspected of having HIV infections), and the rest (1.6%) were female sex workers. Screening for HIV1 antibody was done using Welcozyme anti-HTLV III (Wellcome Diagnostics, Dartford, England) or Elavia I (Diagnostics Pasteur, Marnes La Coquette, France). ELAVIA Ac-Ab-Ak II was used to detect HIV2. The confirmatory test employed was western blot, using LAV Blot I and LAV Blot II (Diagnostic Pasteur, Marnes La Coquette, France). The seroprevalence rate for HIV1 in the blood donors was 0.51% while that of HIV2 was 0.33%. The seroprevalence rates for HIV1 and HIV2 amongst the adult travellers were 1.64% and 0.55% respectively and the comparative rates in the multiply transfused patients (including those with haematological malignancies) were 1.23% each. All the HIV2 positive cases in this group had refractory anaemia. In those suspected of having HIV infection, the seroprevalence rate of HIV1 was 2.94% and no patient in this group had HIV2. Evidence of dual infection by HIV1 and HIV2 was obtained from 18.5% of the seropositive individuals. The dual infection rate in seropositive Nigerians is similar to that reported for some West African countries. We would strongly suggest that all blood samples for HIV tests in Nigerians should be screened for both HIV1 and HIV2. The two blood donors with evidence of dual infection could not be contacted due to fictitious addresses. The only patient with a dual infection has refractory anaemia and he is still being followed up but has not yet developed full-blown AIDs.
PMID: 8798960 [PubMed—indexed for MEDLINE]

Antibodies to human immunodeficiency virus (HTLV-III/LAV) in people from Lagos and Cross River States of Nigeria.
Okpara RA, Akinsete I, Williams EE, Schneider J, Wendler I, Hunsmann G
Acta Haematologica. 1988; 79 (2):91-3

Using enzyme-linked immunosorbent assay (ELISA) and confirmatory immunoprecipitation tests, sera from 640 Nigerians from Lagos and Cross River States were examined for antibodies against HIV. These comprised 570 blood donors and their family members, 56 patients with various haematological conditions and 14 patients with acute Plasmodium falciparum infection. None of the sera was positive for HTLV-III/LAV antibodies by immunoprecipitation, although 12 (1.9%) sera were positive by ELISA.
PMID: 3124480 [PubMed—indexed for MEDLINE]

HIV-1 and HIV-2 antibodies in Nigeria population with high and low risk behaviour patterns.
Esu-Williams E, Mohammed I, Chikwem JO, Akinsete R, Udofia O, Schulze G, Felming AF, Hunsmann G
AIDS. 1990 Oct;4(10):1041-2.

Evidence for HIV-1 group O infection in Nigeria.
Kabeya CM, Williams EE, Eni E, Saman E, Delaporte E
Lancet. 1995 Jul 29;346(8970):308.

Prevalence of human immune deficiency virus types 1 and 2 infections in Nigeria.
Olaleye OD, Bernstein L, Ekweozor CC, Sheng Z, Omilabu SA, Li XY, Sullivian-Halley J, Rasheed S
Journal of Infectious Diseases. 1993 Mar;167(3):710-4.

Sero-prevalence Study of HIV-1, HIV-2 and HTLV-1 among patients at the dermato-venerology clinic of LUTH.
Olumide YM, Dada AJ, Sogbanmu JB, Aruna GA
10th International Conference on AIDS and STDs in African. Abidjan, Cote D'Ivoire. 1997/Dec.

Sero-epidemiology of Human Retroviruses in Ogun State of Nigeria.
Olusanya O, Lawoko A, Blomberg J
Scandinavian Journal of Infectious Diseases. 1990;22(2):155-60.

Incidence of dual presence of antibodies to HIV 1 and HIV 2 in seropositive cases seen in Ibadan, Nigeria.
Shokunbi WA, Salihu I, Essien EM
African Journal of Medicine and Medical Sciences. 1995 Sep;24(3):249-53.

II. MODE OF TRANSMISSION OF HIV/AIDS

Changes in attitude, sexual behaviour and the risk of HIV/AIDS transmission in southwest Nigeria.
Olayinka BA, Osho AA
East African Medical Journal. 1997 Sep;74(9):554-60.

This pilot study was carried out in southwest Nigeria to determine the current trends in sexual behaviours known to be associated with HIV transmission in Nigeria. Knowledge of AIDS in general and as an incurable disease was high (91.4% and 79.4% respectively). Knowledge of the means of AIDS transmission was also very high among both men and women. Overall, condom use was consistent at 25%, inconsistent at 55% and non-existent at 20% for all sexually active respondents. Over 60 per cent of sexually active respondents had two or more sexual partners, with significantly more males than females having this number of sexual partners ($p < 0.01$). Eighteen per cent of sexually active respondents had a history of sex with commercial sex workers while 25% had a history of at least one sexually transmitted disease. Using multiple logistic regression, the significant determinants of condom use among the sexually active group were: being in a stable sexual relationship, history of sex with commercial sex workers, self-perception of testing positive for HIV and self-perception of HIV/AIDS risk in Nigeria. Prevalence of condom use in this study was much higher than those reported in previous studies, suggesting a probable decline in high risk sexual behaviours among inhabitants of urban Southwest Nigeria since the advent of AIDS. Most sexually active respondents aged 19 years or below (adolescents) who perceived themselves at a high risk of testing positive for HIV had never used condoms. The non usage of condoms among this group of adolescents is disturbing, since they are at greatest risk of spreading the disease. Health education and promotion of safe sex practices need to be extensively targeted at adolescents.
PMID: 9487429 [PubMed - indexed for MEDLINE]

Increasing risk of transfusion-associated AIDS as the pandemic spreads: experience in Maiduguri, Nigeria.
Harry TO, Moses AE, Ola TO, Obi SO, Bajani MD
Journal of Tropical Medicine and Hygiene. 1993 Apr;96(2):131-3

Complacency and financial considerations have led many hospitals in developing countries with low HIV antibody prevalence to disregard the importance of pre-screening for HIV antibodies blood meant for transfusion. This report shows that during the year 1987 in which mandatory screening of donated blood was introduced at the University of Maiduguri Teaching Hospital, HIV antibody prevalence in donated blood units was 0%. However, four years later the prevalence had risen to 2.76%. This observation underlines the increasing risk to which transfusion recipients are exposed if given unscreened blood as HIV spreads with time. This spread can be rapid.
PMID: 8459487 [PubMed—indexed for MEDLINE]

The Epidemiology of needlestick and sharp instrument accidents in a Nigerian hospital.
Adegboye AA, Moss GB, Soyinka F, Kreiss JK
Journal of Infection Control Hospital Epidemiology, 1994 Jan; Vol. 15.

Occupational vulnerability of soldiers to HIV infection: Implications for effective condom promotion.
Adeniran O, Adegboye FA, Osibogun AO, Shabi TA
12th World AIDS Conference. Geneva. Book of Abstracts. 1998 June–July.

Human Immunodeficiency Virus Infection (HIV) and *Treponema pallidium* Infections in mothers and their babies at delivery in Jos.
Bello CSS, Mawak JD, Otubu JAM
Tropical Journal of Obstetrics and Gynecology, 1997 Vol. 14.

Transmission of HIV through blood transfusion.
Okpara, Roberts
African Health, 1992 Vol. 14.

III. CLINICAL DISEASE OF HIV/AIDS

Spectrum of clinical diseases in HIV-infected adults at the Lagos University Teaching Hospital: a five-year experience [1992–1996].
Akinsete I, Akanmu AS, Okany CC
African Journal of Medicine and Medical Sciences. 1998 Sep-Dec;27(3-4):147-51.

The study was conducted to document the spectrum of clinical diseases in HIV infected patients at the Lagos University Teaching Hospital (LUTH) over a period of five years: 1992–1996. Patients with symptoms suggestive of HIV infection in both in and out-patients at LUTH were studied. Their blood specimens were screened for HIV infection using enzyme immunosorbent assay (EIA) technique and positive results were confirmed by western blotting techniques. The following were documented: risk factors, clinical history and physical findings. Of the 5,010 patients screened in a five-year period, 759 (15.15%) were found to be HIV positive. Of these 759 patients, 406 (53.5%) were young adults in their third decade (20–30 years). Heterosexual intercourse was the major risk factor in these patients (76%). Progressive loss of weight occurred in 77.8%, prolonged fever in 73%, chronic cough in 50%, painless lymphadenopathy in 40%, chronic diarrhoea in 35%, Kaposi's sarcoma in 0.52% and non-Hodgkin's lymphoma in 0.65%. It appears the scourge of AIDS has eventually hit Nigeria. There is the need for reinvigoration of preventive efforts but some energy has to be channeled towards patient care.
PMID: 10497636 [PubMed—indexed for MEDLINE]

AIDS and cancer in Nigerians.
Williams CK
Lancet. 1986 Jan 4;1(8471):36-7

Acquired Immunodeficiency Syndrome (AIDS) in adults in Jos, Nigeria.
Anteyi EA, Agbaji OO, Idoko JA, Ukoli CO, Idoko LO, Zoaka AY
Nigerian Medical Journal, 1994 Jul–Aug, Vol. 27.

AIDS in Nigerian Igbos; A hospital based study in Enugu.
Ofoegbu Esther N
Oriental Journal of Medicine, 1998 Mar–Dec; Vol. 10.

The Epidemiology of HIV in Nigeria: Changing Trends and New Challenges.
Onwujekwe DI, Idigbe E, Ibrahim MM
XIII International AIDS Conference, Durban, South Africa. Abstract Book. 2000 July, Vol. 1.

Malaria and Human Immunodeficiency Virus (HIV) Infections among adults in Ogun State, South-Western Nigeria.
Salako LAI, Idigbe EO, Erinosho MA, Akinosho RO, Mafe AG, Afolabi BM, Onyewuche J, Ibrahim MM
Nigeria Quarterly Journal of Hospital Medicine, 1996 Oct-Dec; Vol. 6.

Interaction between schistosomiasis and human immune deficiency virus (HIV) in Toro, LGA, Bauchi State.
Kal AM, Agwale SM
12th World AIDS Conference, Geneva. Book of Abstracts. 1998

IV. PAEDIATRIC HIV/AIDS

Clinical manifestations of HIV infection in children at Enugu, Nigeria.
Emodi IJ, Okafor GO
Journal of Tropical Pediatrics. 1998 Apr;44(2):73-6.

Three-hundred-and-fifty-eight (358) pediatric patients below 16 years of age were screened for suspected human immunodeficiency virus (HIV) infection between October 1989 and September 1996. Eighty-three (23 per cent) were confirmed positive. However, adequate clinical data were obtained retrospectively in only 63 patients. Twenty-three (37 per cent) of the patients presented with features corresponding to WHO case definition of Paediatric Acquired Immunodeficiency syndrome (AIDS) in Africa. Vertical mode of infection was documented in 13 (30 per cent) of them while 30 (68 per cent) were infected through blood transfusion. The main clinical features at presentation were generalised lymphadenopathy (59 per cent), persistent or recurrent fever (51 per cent), progressive weight loss or poor weight gain (51 per cent), chronic diarrhoea (38 per cent), various skin manifestations (37 per cent), persistent cough (32 per cent), and oral candidiasis (19 per cent). Six patients died during the initial admission, while majority were lost to follow-up.
PMID: 9604592 [PubMed—indexed for MEDLINE]

Paediatric AIDS in Jos, Nigeria.
Angyo IA, Okpeh ES, Onah J
West African Journal of Medicine. 1998 Oct-Dec;17(4):268-72.

A retrospective study of all children admitted with the diagnosis of acquired immunodeficiency syndrome (AIDS) at Jos University Teaching Hospital (JUTH) between August 1995 and October 1996 was carried out. Forty three (1.5% out of a total of 2793 children were diagnosed with HIV infection during the study period. However, only the records of 23 out. Of the 43 positive cases were available for analysis. Of the 23 cases whose records were available, 8 presented in 1995, while the remaining 15 presented between January and October 1996. The ages of the children ranged between 1 and 15 years (Mean 3.0 +/– 4.1 Years). There were 12 males and 11 females (M:F = 1:1). Sixteen (69.6 percent) out of the 23 patients were aged between 1 month and 2 years. Sixteen (69.6%) of the 23 patients acquired the infection vertically, 2 (8.9%) acquired the infection through blood transfusion, 1 (4.3%) from sexual abuse, while in 4 (17.4%) the source of infection could not be established due to inadequate data. Majority of the children presented with weight loss, chronic diarrhoea and fever, while the common findings included wasting, oral thrush, pallor, hepatosplenomegaly and lymphadenopathy. Six (26.1 percent) out of the 23 children died, 8 (34.8 percent) were discharged against medical advice and have not been seen since, 9 (39.1%) improved and were discharged to out-patient clinic followup, but all except 2 of these have been lost to follow-up. It is concluded that AIDS is increasingly becoming a major cause of childhood morbidity and mortality in our environment. All children in our environment who present with features of malnutrition should be screened for AIDS. Campaigns aimed at preventing vertical (maternal-child) transmission, including health education of young men and women on the risk of unprotected sex must be vigorously pursued and sustained.
PMID: 9921095 [PubMed—indexed for MEDLINE]

Sero-prevalence and prevalence of HIV and HBs AG in Nigerian children with/without protein energy malnutrition.
Akenami FO, Koshiniemi M, Ekanem EE, Bolarin DM, Vaheri A
ACTA Tropica, 1997/April Vol. 64.

HIV-Nephropathy in Children—case report and review of literature.
Okafor HU, Emodi IJ
Journal of College of Medicine, 1996/Dec. Vol. 1.

V. OTHERS

HIV infection: risk of occupational exposure in a chemical pathology laboratory in Nigeria.
Ojule AC, Ejele OA, Opurum HC
Nigerian Postgraduate Medical Journal. 2001 Jun;8(2):78-80.

The prevalence of HIV/AIDS is rising globally, the worst affected area being Sub-Saharan African. In order to assess the risk of occupational exposure to HIV/AIDS in laboratory workers in Nigeria, we screened 210 consecutive serum sample sent to the Chemical Pathology

Laboratory of the University of Port Harcourt Teaching Hospital, Port Harcourt, over a two-week period. 17 (8.1%) of all the sample screened tested positive. The Sero-positivity rate was 11.3% for adults and 2.6% for children. The implications of these findings with regards to the risk of occupational exposure of laboratory and health worker is discussed. The need for more attention to be paid to laboratory safety regulation in sub-saharan Africa in highlighted.
PMID: 11487906 [PubMed—indexed for MEDLINE]

HIV infection in Nigeria.
Mohammed I, Nasidi A, Chikwem JO, Williams EE, Harry TO, Okafor GO, Ajose-Coker OO, Ademiluyi SA, Tukei P, De Cock KM, et al.
AIDS. 1988 Feb;2(1):61-2.
PMID: 3128999 [PubMed—indexed for MEDLINE]

HIV/AIDS in Nigeria.
Akinnnibosun Akin
The Nigerian Journal of Pharmacy, 1997, Vol. 28.

Epidemiology of HIV/AIDS in Nigeria
Akanmu AS, Akinsete I
Nigeria Medical Journal, 1998/Jan–June, Vol. 34.

The pattern of HIV-Infection at the University Teaching Hospital (LUTH) Lagos, Nigeria, from Jan. 1998 to Dec. 1990.
Akinsete I, Ayelari OS, Olurinde T, Akanmu AS
VII International Conference on AIDS, Florence, Italy. Book of Abstracts. 1991. Vol. 1.

Human Immunodeficiency Virus Infection in Nigeria
Ani MNI, Agwale SM
The Brazilian Journal of Infectious Disease, 1998, Vol. 2.

The role of traditional medical practices in the epidemiology of AIDS in developing countries.
Offor E, Saheeb BDO
Jounal of Medical Laboratory Science, 1998 Vol. 7.

Critical Gaps and Recommendations On Research Areas That Need to be Addressed

- Sentinel surveillance to date has been carried out in a limited fashion. It is imperative that the number of sentinel sites be increased and located appropriately to provide a more comprehensive and representative picture of the epidemic.

- Sentinel surveillance reports have demonstrated a marked geographic difference in the pattern of the AIDS epidemic in Nigeria. There is urgent need for a nationwide behavioral surveillance survey to better understand the nature of the epidemic.

- The majority of the epidemiological surveys are efforts of individuals and individual institutions. There is a need for mapping and meta-analysis of these isolated pockets of surveys for comparison of similarities and differences at a national level.

- The sentinel surveillance reports have highlighted hot spot areas that deserve more intensive and focused research.

- There have been limited attempts to assess the prevalence among high-risk groups including commercial sex workers, long-distance truck drivers, injecting drug users, and men who have sex with men. There is a need for a more broadened definition of high-risk groups and more targeted sero prevalence surveys of these high-risk groups.

ANNEX V
ANNOTATED SOCIOCULTURAL BIBLIOGRAPHY

Seroprevalence studies of HIV infection in Nigeria have shown a steady rise over the past 10 years. This has been a wake-up call for Nigeria and has led to the formation of the multisectoral National Action Committee on AIDS (NACA). Various donor agencies and nongovernmental organizations are in the process of formulating and coordinating their response to the epidemic. This bibliography of the social, cultural, and behavioral aspects of HIV/AIDS transmission, prevention, and care in Nigeria was developed as part of a strategic assessment for the USAID strategy in Nigeria for the period 2004–09.

The articles included here were drawn primarily from published sources and are thus accessible on Medline. Other documents, such as studies by USAID implementing partners, are also included. The information is organized under four headings; descriptive studies, intervention studies, other references for which abstracts could not be obtained, and suggestions for further data and research needs.

The studies are primarily descriptive, cross-sectional studies, although several intervention studies were identified. The descriptive studies are divided into sections. The first, studies on adolescents and youth, has three subsections: adolescents and secondary school students, university and postsecondary students, and studies that compare Nigerian youth with samples from other countries. A second section examines high-risk populations and circumstances including prisoners, long-distance truck drivers, young women hawkers at truck stops and bus stops, and commercial sex workers.

The third section examines contraception, condoms, and abortion. Some of the contraception studies specifically mention AIDS-related issues such as use of contraception for disease prevention, whereas from others, one can derive information about sexual behavior that may be related to AIDS transmission. The fourth component of descriptive studies reviews community norms and practices in general, including sexual networking. Specific subsection themes examine professional workers, health workers, indigenous practices, gender issues, AIDS in the media, and people living with AIDS.

All references in the two main sections of the report contain an abstract, usually the one supplied by Medline or the journal web site. In addition, a list of references appears at the end for which abstracts could not be obtained, but they still may be important to other researchers and planners.

I. DESCRIPTIVE STUDIES

A. Adolescents and Youth

A1. Adolescents and Secondary School Students

1. Perceptions of sexual coercion: learning from young people in Ibadan, Nigeria. Ajuwon AJ, Akin-Jimoh I, Olley BO, Akintola O. *Reprod Health Matters.* 2001;9(17):128–136. This study explored the problem of

sexual coercion from the perspectives of 77 young people aged 14–21 in Ibadan, Nigeria, the behaviors they perceive to be sexually coercive and the contexts in which these occur through four narrative workshops. Participants were drawn from two secondary schools and 15 apprentice workshops. All four groups identified similar coercive behaviors and developed narratives of the events that typically lead up to them. Behaviors included rape, unwanted touching, incest, assault, verbal abuse, threats, unwanted kissing; forced exposure to pornographic films, use of drugs for sedation and traditional charms for seduction, and insistence on abortion if unwanted pregnancy occurs. Men were typically the perpetrators and young women the victims. Perpetrators included acquaintances, boyfriends, neighbors, parents, and relatives. All the narratives revealed the inability of young people to communicate effectively with each other and resolve differences. The results suggest the need for life-skills training that facilitates communication, seeks to redress gender power imbalances, teaches alternatives to coercion as a means of resolving conflict over sexual relations and respect for sexual and reproductive rights, and provides victims with information on appropriate services, support and referral.

2. Changes in adolescent sexuality and the perception of virginity in a southwestern Nigerian Village. Renne EP. *Health Transition Rev.* 1993;3(suppl):121–133. In February 1992, a rural Ekiti Yoruba village in northeastern Ondo State, Nigeria, researchers interviewed 38 35–80 years old women who had arranged marriages and 57 15–34 year old women to examine changes in adolescent female sexuality and in the women's attitude toward virginity from 1930 to 1992. Formerly, virginity was considered an important part of arranged marriage and was believed to facilitate pregnancy. This was exemplified by the proverb, *Obirin t'o fi ibale s'oyun, ko mo iya ile oko* (The virgin woman who immediately gets pregnant does not know suffering in her husband's house). The older women were more likely to be virgins when they married than were the young women (82% vs 28%). 25 of the 31 women who were virgins on their wedding day were given a virginity payment (e.g., roasted yam with red oil, cloth, or money). The older women noted that new wives who did not conceive during the first month of marriage were believed to not be virgins on the wedding day. Introduction of divorce in the 1950s allowed young women to free themselves from arranged marriages and to marry a man they love. By the early 1970s, premarital sexual intercourse became common, largely due to men's need to ensure the fertility of their future wife. 58% of the older women attributed the fall in the virginity among female adolescents to universal primary education and civilization. Other perceived reasons included a relaxed attitude toward sexuality, exposure to TV and videos, and relaxed sexual behavior at home. 74% of women born between 1962 and 1966 either were not virgins or did not want to be virgins when they married. 78% of them considered virginity to be bad because the would be considered to be infertile. Some young women saw virginity as disease, as being unhealthy, anti-social, and un-modern. Some believe virginity can be re-interpreted as moving in with one boyfriend whom she intends to marry. Traditionally, a notion of "spoilage" existed as seen in the proverb, *Ibaje ojo kan kii tan l'ogun odun* (That which is spoiled in one day cannot be redeemed in 20 years). Some notion of "spoiling" exists today, but the ideas are mixed. To some a non-virgin has *spoiled* herself for her husband and may not be as fertile as expected. Others feel that a virgin is herself *spoiled* since she has not demonstrated an ability to get pregnant. Colonialism ushered in the fall of arranged marriage and the change in adolescent female sexual behavior. These findings can contribute to the understanding of future behavioral responses to HIV/AIDS. If adolescents personally experience HIV/AIDS either directly of indirectly, adolescent female sexuality may again change rapidly as it did in the beginning of the 20th century.

3. Sexual behaviour and Knowledge of AIDS among female apprentices in a Yoruba town in southwestern Nigeria. Dada J, Olaseha IO, Ajuwon AJ. *Int Q Community Health Ed.* 1997–98;17(3):237–270. This exploratory study was carried out among unmarried female trade apprentices in Ikorodu, a Yoruba town in southwestern. Nigeria, to identify sexual risk behaviors, assess knowledge on HIV/AIDS, and recommend an appropriate AIDS education program. Four focus groups were conducted to gain insight into the social-cultural and economic factors influencing sexual risk behaviors, followed by a survey involving 280 randomly selected respondents. Findings showed that many group discussants approved of premarital sex and believed that sex with multiple partners occurred mainly because of the economic difficulties encountered by female apprentices. Most of the survey respondents (70.9%) were sexually experienced, with age of first sexual intercourse ranging from 11 to 22 years, 155 (78.2%) were sexually active; of these, 37.4 percent said that their last sexual encounter occurred because they could not resist the pressure put on them by their male partners, were under the influence of alcohol, were in need of money, and raped. Sixty percent of the sexually active respondents did not take any action to prevent STD or pregnancy during their

last sexual encounter. Of the 58 who did, 37.9 percent used the condom. Of those sexually experienced (45.3%) have had at least one STD symptom in the year before, half of them did not do anything about their condition; 37 percent practiced self-medication or received injections from quacks. Although 70.9 percent had heard about AIDS, many had limited knowledge about the nonsexual routes of HIV transmission. Appropriate intervention strategies were recommended to educate the apprentices.

4. Reproductive Knowledge, Attitudes and Behaviour of Secondary School Students in Akure, Nigeria. Oladapo MM, Brieger WR. *Int Q Community Health Ed.* 1996–97;16(4):341–358. Adolescents are subject to many life changes as their secondary sexual characteristics emerge. Contrary to parents' and society's wishes, these young people are more sexually active then previous generations and thus at greater risk of unwanted pregnancies, sexually transmitted diseases, and related problems. Adolescents enrolled in school have the potential opportunity to learn ways to prevent these reproductive and sexual health problems, but there is concern whether schools are living up to this challenge. Therefore, this study was designed to learn whether adolescents in secondary school in the Ondo State capital of Akure have reproductive health education and are practicing healthy sexual behaviors. The study was based on a sample of six of the twenty-eight secondary schools in Akure that fell under the jurisdiction of the Ondo State Post-Primary Schools' Management Board. Focus was placed on pupils in the final years of both Junior Secondary School (JSS 3) and Senior Secondary School (SSS 3). Overall, 30 percent of the young people reported having sexual intercourse: 21 percent of females and 38 percent of males. Also 39 percent in SSS 3 reported having had sex compared to 21 percent in JSS 3. Forty percent of students in coeducational school compared to 19 percent in boy's school and 8 percent in girl's school had sex, Respondents averaged only 11 points on a 33-point scale of reproductive health knowledge. Students in the senior classes and those in single sex schools scored higher. The mass media was stated to be the major source of reproductive health knowledge; only one-third reported that they had actually talked with someone about their reproductive health concerns. Attitudes toward pre-marital sex were more favorable among male students, pupils in mixed sex schools and those whose parents had lower levels of education. These findings suggest not only that the schools must take a more active role in providing reproductive health education, but that this should be done in the junior secondary years before most pupils become sexually active.

5. Unmet reproductive health needs of adolescents: implications for HIV/AIDS prevention in Africa. Onifade (1999). In Orubuloye *et al.* (eds.) *The Continuing HIV/AIDS Epidemic in Africa: Responses and Coping Strategies*, Health Transition Centre, The Australian National University, Canberra. A survey on in- and out-of-school youth in Akure, Ado-Ekiti, Igbokada, Igbekebo, and Aiyetoro (ages 11–25). Among 829 males 37% had sex before and 23% were currently sexually active; among 929 females 22% had sex before and 15% were currently sexually active. Fifty-one percent of the males who had sex before first had sex when they were 15 years old or younger; in contrast 16% of females who ever had sex did so before the age of 16. Overall, 6% of males and 2% of females said they ever had sex against their will. Among those currently sexually active, 26% of males and only 3% of females reported having multiple partners. Most males (60.6%) and females (67.1%) had heard of contraception. Only 13% of males and 8% of females had ever used contraception. Use of condoms was reported by 10% of males overall or 27% who ever had sex, and by 2% of males or 9% of those who ever had sex. Only 29% of males and 25% of females could categorically say there is no cure for HIV/AIDS. Overall 6% of males and 4% of females say they knew someone who had contracted a STD. Concerning HIV/AIDS knowledge 57% of males and 59% of females said it was true that having multiple partners increases the risk of contracting the disease, but 37% of both males and females agreed that HIV/AIDS can be transmitted through kissing or mosquito bites. Also, only 32% of males and 26% of females knew that a healthy looking person can have HIV. With other STDs, only 30% of males and 36% of females knew that these diseases could cause sterility.

6. Peer and parental influence on sexual activities of school-going adolescents in Nigeria. Owuamanam DO. *Adolescence*. 1983 Spring;18(69):169–179. This study set out to investigate the relationship of sexual behavior of Nigerian adolescents' orientation to parents or peers. Five sexual activities—holding hands, embracing, kissing, genital/breast fondling, and sexual intercourse were investigated. Three forms of a questionnaire on adolescents' sexual behavior, sex information, and orientation to peers and parents were administered to 320 students representing a stratified random sample of urban and rural adolescents in 8 high schools in Oyo state of Nigeria. The responses of 240 subjects were analyzed. Adolescent kissing embracing, genital/breast fondling, and sexual intercourse behavior were found to be significantly associated with adolescents' type of orientation. Peer-oriented adolescents are found to engage more in sexual

activities than parent-oriented adolescents. Peers were also found to be more engaged in imparting sex information to adolescents than were parents, although information on marriage, menstruation and venereal diseases were obtained mostly from parents. Parents and magazines were the major source of information nonejaculation, contraception, birth control, sexual intercourse, and romance. Most adolescents interviewed had no knowledge of antibiotics. Fifty-six percent of non-sexually active adolescents based this decision on parental feelings. This reaffirms the restrictive attitude of Nigerian adult society to youth sexuality. Sex is seen by adult as a childbearing function, a conclusion affirmed by the kind of sexual information provided by parents in Nigerian society.

7. Sexual beliefs, attitudes and knowledge of adolescent youths in Ibadan concerning AIDS. Asuzu MC. *West Afr J Med.* 1994;13(4):245–247. This is a descriptive cross-sectional study of Ibadan secondary school students who took part in an open and voluntary family life education programme in 1990. Of the 306 estimated youth attendants of at least 1 day of the 4-day programme, 266 filled the registration form and questionnaire well enough to be used in this analysis. While 277 (85.3%) of the youths had heard about AIDS, only 18 (6.8%) could name the disease agent, and 190 (71.4%) could identify sexual intercourse as the principal route of transmitting the infection. The electronic media (radio and TV) were the commonest routes from which knowledge about AIDS was acquired (in 109 or 41% of the youths). One hundred sixteen (43.6%) of the youths believe that chastity is the surest means of controlling the AIDS epidemic and 152 (57.1%) actually plan to practice chastity. However, 38 (14.3%) consider AIDS control through the promotion of chastity as unrealistic. While none of the youths claim to be homosexual, five (1.9%) claim to feel sexually excitable or attracted by both sexes, at least sometimes. These findings are discussed in relation with the control of the AIDS and sexually transmitted diseases pandemic; as well as with adolescent education in family life in general.

8. Factors influencing adolescent sexual activity in Nigeria: analysis of the 1990 Demographic and Health Survey. Oladosu M. *J Pop Social Studies.* 1993;4(1–2):103–119. Unmarried adolescents in Nigeria have become more sexually active over the past decade. Data are available from Nigeria's 1990 National Demographic and Health Survey for 1678 unmarried female adolescents aged 15–19 years. Of these, 1104 young women were unmarried at the time of the survey. Of the unmarried women, 26.4% were sexually active at the time of the survey, 67.5% of whom had unprotected coitus. Analysis of the survey data found that adolescents became 1.5 times more likely to be sexually active as they moved from one age to another. Adolescents with an average knowledge of contraception were 12 times more likely to be sexually active than those with no knowledge. The author notes with regard to this finding that engaging in sexual intercourse is more likely to encourage a search for information on contraceptives rather than the reverse. Women with average knowledge had a lower probability of contraceptive use than those with a low level of knowledge. Knowledge of contraceptives is a necessary but not sufficient condition for use, especially given the experimental and sporadic sex lives of growing adolescents. Friends were the preferred source of information on contraceptive use. Finally, educational status, residence, and region were found to be only indirectly associated with sexual intercourse. In the interest of developing positive attitudes among adolescents toward contraceptive use, the author recommends educating parents through the mass media and at Parents Teachers Association meetings on the realities of adolescence and the need to provide their children with information on sexuality, having health educators to work with teachers in schools to develop curricula and skills to convey family life and sex education to children and adolescents, recruiting and training adolescent peer educators on family life and sex education, and establishing adolescent units within existing family planning clinics across the country. A strong commitment to program success is needed from the government and health workers.

9. Sexual attitudes and behaviour of male secondary school students in rural and urban areas of Oyo State, Nigeria. Oladepo O, Brieger WR. *Afr J Reprod Health.* 2000;4(2):21–34. A sample of 1,527 male students in rural and urban high schools selected randomly in Oyo State, Nigeria, were studied. Mean age at first sexual intercourse was 13.5 years among the 19.9% who ever had sex. Having had sex before was associated with increasing age and number of fathers' wives. A positive male dominance attitude was common among rural, older, and sexually experienced youth. Only 26.2% of sexually experienced youth had used condoms. Perceived self-efficacy was the only factor associated with condom use. Reproductive health knowledge was low, but students expressed a desire to learn more.

10. The construction of adolescence in a changing world: implications for sexuality, reproduction, and marriage. Caldwell JC, Caldwell P, Caldwell BK, Pieris I. *Stud Fam Plann.* 1998;29(2):137–153. This article aims to show how the period now known as adolescence came into being and how it was shaped by international economic, institutional, and social influences. It considers premodern societies and argues that traditional culture has shaped contemporary adolescence even more than has global society. Explanations are offered for the enormous differences across the world in adolescent sexuality, reproduction, and marriage. The data are drawn mainly from research programs in Nigeria, Sri Lanka, India, and Bangladesh, and comparisons are made with other countries.

11. Sexual behavior, contraceptive practice, and reproductive health among Nigerian adolescents. Studies in Family Planning. Nichols D, Lapido OA, Paxman JM, Otolorin EO. *Stud Fam Plann.* 1986;17(2):100–106. This study reports on a 1982 survey of sexual behavior, contraceptive practice, and reproductive health in Ibadan, Nigeria, to explain the country's high adolescent pregnancy and illegal abortion rates, understand adolescents' attitudes and practices, and to improve health services. Eighteen hundred never-married individuals between ages 14 and 25, who either work or attend school completed the 8-page questionnaire. Although most respondents report having seen or heard reproductive health information, and knowing one or more contraceptive methods, only 31% of secondary school men and 39% of university student men correctly identify the most fertile time during the menstrual cycle. Four-fifths of male students and 2/3 of female students approve of premarital sex for engaged couples; 33%–54% of male students and 19%–23% of female students approve under any conditions. A majority of all respondents, except nonstudent adolescent men, think nonmarried adolescents should use contraceptives for premarital sex. Most respondents, except secondary school females, report being sexually active; 90% of nonstudent males and females are sexually active. Contraceptive use is 51%–63% for male students and all females; only 13% of nonstudent men, however, report contraceptive use. Men are more likely to report condom use and women to use the pill. Among adolescent women (but not men), more frequent sex makes contraceptive use more likely. Almost half of female students, and more than 2/3 of female nonstudents reported having been pregnant; nearly all respondents terminated their pregnancies through induced abortion. For most women, prior pregnancy does not increase contraceptive use. Lack of information explains most nonusers' lack of contraceptive use. The authors maintain that reproductive health information quality is low among adolescents, that adolescents must be encouraged to seek information, and that contraceptive counseling must be offered. The young unmarried population's needs are not being met by existing government or private programs.

12. AIDS-related knowledge, attitude and behaviour among selected adolescents in Nigeria. Araoye MO, Adegoke A. *J Adolescence.* 1996;19(2):179–181. To obtain baseline data for the design and implementation of a school-based AIDS prevention program, 482 male and 488 female adolescents enrolled at 10 secondary schools in Ilorin, Nigeria, were surveyed about their AIDS-related knowledge, attitudes, and behaviors. Respondents ranged in age from 10 to 19 years; a proportionate sampling technique was used to ensure that the schools selected included low, middle, and high socioeconomic clusters. About 75% of students were aware of AIDS; major knowledge sources were the mass media (57.8%) and peers (13.9%). Forty-two percent had received education about AIDS at school; but only 39% had discussed AIDS with their parents. HIV is known as the causative agent of AIDS by 49.5% of students. Correct knowledge pertaining to the etiology and transmission of AIDS was positively associated with school-based AIDS education. This effect was strongest for younger adolescents (10–14 years) and females. Between 18.2% and 41.1% of students had misconceptions about HIV transmission (e.g., via casual contact). Thirty-four percent of men and 14% of women were sexually active; the mean age at first intercourse was 14.6 years for men and 15.1 years for women. These students had higher awareness of the sexual route of HIV transmission than their nonsexually active peers (89% vs. 76%, respectively) and were more knowledgeable about the preventive roles of condoms (66% vs. 47%) and having a single sexual partner (63% vs. 44%); on the other hand, these sexually experienced students were more apt to perceive their personal risk of HIV as low than their inexperienced counterparts (77% vs. 89%, respectively) and to believe that AIDS is curable (30% vs. 17%). Thirty-six percent of sexually active men and 20.7% of women were condom users. Overall, these findings suggest the effectiveness of school-based AIDS education programs, especially if introduced before age 14 prior to the typical age at onset of sexual activity.

13. Sexual activity and contraceptive knowledge and use among in-school adolescents in Nigeria. Amazigo U, Silva N, Kaufman J, Obikeze DS. *Int Family Plann Perspect.* 1998;23(1):28–33. Among 2,460 secondary school students surveyed in two southeastern Nigerian states, only 36% could correctly identify the most

likely time for conception to occur. Female students were considerably more likely than males to understand the timing of conception (46% vs. 25%); less dramatic differences emerged by students' residence and grade in school. Among students who supplied information about their sexual activity, 40% had had intercourse; the proportion who were sexually experienced climbed from 26% of 14-year-olds to 54%–55% of 18- to 19-year-olds. Whereas 36% of the young women had had sexual partners who were roughly their age, 25% had been involved with older businessmen; the young women said they have intercourse more frequently and are less likely to restrict intercourse to the safe period of their cycle when they are involved with older partners that when they have boyfriends their own age. Only 17% of sexually active students had ever used a contraceptive method other than abstinence. In focus groups and in-depth discussions, students expressed a strong desire for better education about contraception and the consequences of sexual intercourse, and recommended that both schools ad parents participate in educating young people about reproductive health.

14. Socio-demographic characteristics and sexual behaviour of adolescents attending the STC, UCH, Ibadan: A 5 year review. Fawole OI, Ajayi IO, Babalola TD, Oni AA, Asuzu MC. *West Afr J Med.* 1999;18(3):165–169. As a continuation of the ongoing efforts to prevent and control the spread of sexually transmitted diseases (STDs) and AIDS in adolescents, this retrospective clinic-based study identifies the socio- demographic characteristics, describes the sexual practices, and identifies the common STDs, including drug utilization patterns in this risk group at the special treatment clinic of the University College Hospital, Ibadan. Results reveal that adolescents constituted between 3.3% and 4.8% of the total number of patients seen each year. The characteristics of the subjects were as follows: 54 (38.3%) were aged 19 years, 133 (94.3%) were single, 79 (53.2%) were female, and 103 (73.0%) were students. For sexual behaviour, 22 (15.71%) denied previous history of sexual intercourse. Vaginal intercourse was reported in all sexually active youth, 2 (1.71%) reported oral sex, whereas 10 (8.41%) admitted that they had multiple sexual partners. Gonorrhea was diagnosed in 23 (21.51%) sexually active youths. Among those who had used drugs before presentation, ampicillin was the common drug used for treatment by 14 (26.4%). The importance of encouraging adolescents to present at STD clinics is highlighted. Health workers need to have a sympathetic attitude and assure them of confidentiality. The need for more community-based education is shown, including the importance of proper and complete documentation of hospital records.

15. Factors Responsible for Unintended Teenage Pregnancies Among Secondary School Students in Minna Municipal. Ahmed Gajere Bawa. (An MPH dissertation in the department of Health Promotion and Education, College of Medicine, University of Ibadan, 1994). This study was designed to assess factors responsible for unintended teenage pregnancies among secondary school students in Minna Municipal. Data were collected through interviews by using a set of questionnaires. A total of 306 pregnant teenagers who came back to school after delivery or abortion in Minna Municipality were interviewed. The total consisted of 205 from a women's teaching college, 61 from Day secondary school and 40 from Bosso secondary school. The respondents show no significant difference in religion, age, marital status, and ethnic background in the three schools studied. However, other demographic indices, such as level of education and occupational status of respondents' parents show some differences. In knowledge and sources of information on sex and reproductive health, 138 (45.1%) of the respondents claimed to have heard about sex education at different times from various sources, among which are classroom, teaching (principal source), friends, and parents. Even though many of the respondents claimed to have been exposed to some information on sex and reproductive health in the schools, only 52 (16.7%) of the respondents in the three schools had correct knowledge of woman's menstrual cycle. Furthermore, all respondents in the three schools showed poor knowledge of the methods to prevent pregnancy, and a chi-square test showed no observable significant difference ($P < 0.05$) among the respondents in the three schools. The same trend was seen for awareness of family planning and its utilization. Slightly more than half of the respondents (176; 57.5%) in the three schools claimed not to be aware of family planning. Of the 118 (38.6%) who claimed to be aware, only 25 (8.2%) had ever before tried one or two methods of family planning. This finding suggests that knowledge about family planning does not guarantee usage. In view of these findings, the author recommends the introduction of family life education into the curriculum of secondary schools in the state.

16. Survey of knowledge, attitudes and sexual practices relating to HIV infection/AIDS among Nigerian secondary school students. Fawole OI, Asuzu MC, Oduntan SO. *Afr J Reprod Health.* 1999;3(2):15–24. The research was carried out to study the AIDS-related knowledge, attitudes, and sexual behavior of 450 students selected by the multistage sampling technique from four Nigerian secondary schools. Eighty-three

percent of students knew AIDS was transmitted sexually, but the percentage of those aware of other modes of transmission was much lower. Attitudes were poor, as 372 (82.7%) students would dislike having someone with AIDS near them. First sexual experience occurred at 15.8 years for men and 16.3 for women. Of the 450 students studied, 159 (35.3%) had experienced sexual intercourse before. Of the 120 students (26.7%) who were sexually active a month before the survey, 34 (28.3%) had multiple sexual partners. The use of unreliable methods for the prevention of sexually transmitted diseases was common. There is an urgent need to intensify ongoing AIDS campaign, especially school-based AIDS education programmes to secondary school students before their behaviors become fixed.

17. Reproductive health knowledge and implications: a study in Nigeria. Tauna BT, Hildebrand VL. *Early Child Dev Care.* 1993;87:83–92. Forty-five percent of Nigeria's population is under age 15. This study employed a questionnaire to learn the level of reproductive health knowledge of 416 male and female Nigerian students ages 10 through 16. The chi-square statistical procedure was used as demographic characteristics were related to reproductive health knowledge among the preteen and teenage youth. Statistically significant ($p < 0.05$) relationships were found between variables such as knowledge of reproduction, family planning, and AIDS when each was compared separately to age, gender, living situation while at school, school club memberships, and so on. With respect to reproduction and related topics, older teenagers indicated more knowledge than preteens, girls more than boys, and those living in dormitories more than those living at home or in other housing while attending school. Television ranked first in terms of students' sources of information on reproduction, pregnancy, birth control, and AIDS. Newspapers ranked second, radio third, teachers fourth, and parents fifth. Perhaps the most striking data are the "I don't know" responses with respect to AIDS. Thirteen percent had not heard of AIDS, 27% did not know how AIDS is transmitted, 29% did not know the seriousness of AIDS, 37% did not know how to avoid AIDS, and 14% did not know that a mother with AIDS might infect her baby. Recommendations are made for increasing health services and education concerning reproductive health for pre-teen and teenage students.

18. Influence on adolescent sexuality in Nigeria and Kenya: findings from recent focus-group discussion. Barker GK, Rich S. *Stud Fam Plann.* 1992;23(3):199–210. Continuing high rates of adolescent childbearing in sub-Saharan Africa indicate a need for improved understanding of factors affecting adolescent sexuality. As traditional cultural influences on adolescent sexuality in Africa have diminished, peer interaction and modern influences have gained importance. To study peer interaction and societal factors and their impact on adolescent attitudes toward sexuality and contraception, the authors conducted a series of single-sex focus group discussions with in-school and out-of-school youth in urban and rural areas of Kenya and Nigeria in 1990. Out-of-school youth generally receive information on sexuality and family planning from peers (and the media), while in-school youth receive information in school, although not necessarily relevant information. Young women interviewed perceived unwanted early childbearing as something that affected them, an important precursor to family planning use. However, young people tended to have better information and more positive attitudes about induced abortion than about family planning.

19. Acquired immunodeficiency syndrome: education exposure, knowledge and attitude of Nigerian adolescents in Calabar. Asindi AA, Ibia EO, Young MU. *Ann Trop Paediatr.* 1992;12(4):397–402. The knowledge of and attitude of AIDS of 738 secondary school youths in Calabar were studied by questionnaire in March 1991. Most (92%) of the adolescents had heard about AIDS, largely through the mass media (79%–85%), with parents and teachers contributing in less than 40%. About 30% did not know that AIDS exists in Nigeria. Most of them knew that promiscuity, blood transfusion, and sharing injection needles and syringes are the major modes of transmission, but a number still incriminate toilet seats, eating utensils, hand-shaking, and kissing. Only 31% were aware that condoms provide protection. For self-protection the youths prefer abstinence (45%) and confinement to one sex partner (19%). Only 3.6% would adopt the use of condoms. To prevent the spread of AIDS, the youths prescribe isolation (37%), treatment (34%), and killing (14%) of diagnosed cases. Most youths (77%) will stop seeing friends and 63% will reject relatives who develop AIDS. The study reveals that while general awareness of AIDS is fairly good, detailed knowledge is riddled with misconceptions and confusion. It is recommended that physicians in the community should assist in disseminating accurate information, with the support of parents, teachers, and the youths themselves.

20. The challenges of adolescent sexuality and reproductive health in Nigeria. Alubo O. June 2000, Research paper 166, Takemi Program in International Health, Harvard School of Public Health, Boston. Adolescent sexuality and reproductive health are important contemporary concerns especially for reproductive health problems such as unintended pregnancy. maternal mortality. and sexually transmitted disease, including AIDS. Adolescent have a higher prevalence of most reproductive health diseases because of lack of information and poor access to service. A study of young adults in tertiary educational institutions in Nigeria, this report is based, show that adolescents engage in sexual activities for various reasons, the most prominent being peer pressure and economic gains. Their reproductive health practice relies on peer counsel and uses of common every day items for prevention of pregnancy, as abortifacient and self-medication for the treatment of infections. Two years of interactive intervention indicate that youths are willing to learn about reproductive health but facing challenges of peer pressure, economic pressure, institutional support to provide services, and general economic policy that push some to commercial sex. It is suggested that the issues include individual behavior, groups, institutions, and social and economic policies. The challenges include reaching youths with sexuality and reproductive information and service, or motivating them to change their behavior in the light of new information and awareness, more institutional support, and creating the social and economic climate, which will make the desired changes possible and sustainable.

A2. University and Postsecondary Students

21. Sexual networking among youth in southwestern Nigeria. Owuamanam DO. *Health Transition Rev.* 1995;5(suppl):57–66. Students (249 men and 344 women) in secondary school and higher institutions in Ekiti, Ondo State were interviewed in the study of their sexual networking and contraceptive behavior. The researchers were interested in determining the extent of the students' high-risk behavior in terms of sexually transmitted disease (STD) and HIV/AIDS transmission, any behavior adopted to prevent the transmission of STD and HIV, and their degree of awareness of and attitudes toward AIDS. Five-hundred forty-four of the participants were from urban settings, 171 were in secondary school, and 422 were in higher institutions; 7 were married, and 496 were Christian. They were aged 14–35 years. Of rural subjects, 61.8% and 45.4% of urban subjects came from polygamous homes. Their responses are presented on age at first sexual intercourse, sex partners, sex behavior and contraceptive use, sexually transmitted diseases, and the modification of sexual behavior in the context of AIDS. Young people in this region continue to engage in risky sexual behavior. There should be particular concern over the proportion of the population that remains ignorant of AIDS, is indifferent about AIDS, or feels that AIDS has not spread. To some extent, however, these youths have modified their sexual behavior since learning of AIDS.

22. Fears of AIDS in Nigerian students: dimensions of the fear of AIDS Scale (FAIDSS) in West Africa. Akande A, Ross MW. *Soc Sci Med.* 1994; 38(2):339–342. A study based on a sample of 2500 individuals aged 18 years and over in six West African cities was undertaken for the purpose of determining the cross-cultural consistency and replicability of fears about AIDS. A factor analysis of the data obtained confirmed a similar factor structure to that reported in Australia. Implications for the prevention of HIV transmission in Nigeria and other west African countries is discussed. Our findings showed that the fear of AIDS Scale (FAIDSS) is a reliable index of fear of aids and is readily scaleable. Other implications for health education are considered.

23. Nigerian university students' knowledge, perceptions, and behaviours about HIV/AIDS: are these students at risk? Harding AK, Anadu EC, Gray LA, Champeau DA. *J R Soc Health.* 1999;119(1):23–31. The purpose of the study was to determine the knowledge level of undergraduate students of a Nigerian university about HIV/AIDS, their perception of risk of contracting HIV/AIDS based on their sexual behavior, and to assess how students acquire information about HIV/AIDS. The sample consisted of 380 students from five faculties of the university who volunteered to participate in the study. Participants completed a survey, which asked about their knowledge about transmission, symptomatology, and prevention of HIV/AIDS. The survey included questions about their sexual orientation, past and present sexual practices, and sources of information about HIV/AIDS. The results indicated that the students were knowledgeable about transmission and symptomatology, but there were some misconceptions about the mode of transmission of HIV. Few students identified themselves to be at high risk even though majority of them (92%) were sexually experienced. The study also showed that even though these students are knowledgeable and concerned about contracting HIV/AIDS from their partners, this did not prevent them from engaging in unprotected sexual intercourse. It appears, however, that students are exercising caution when negotiating new sexual

relationships, as they are likely to discuss (and insist on) using condoms and ask to have a monogamous relationship. Students obtained information about HIV/AIDS primarily from the media rather than from school classrooms and homes, which suggests a need to increase educational efforts at the university. Many students of this university may be at risk of becoming HIV-infected due to their age bracket, level of sexual activity, and past/present sexual behaviors. University faculty can be actively involved in developing and implementing HIV/AIDS education and prevention strategies on their campuses. Health educators must go beyond providing accurate and gender-specific information about HIV/AIDS; they must also help students realistically assess their own risk of infection, and develop communication processes which enable them to negotiate safer sexual practices.

24. AIDS knowledge, attitude and behaviour patterns among university students in Ibadan, Nigeria. Oladepo O, Brieger WR. *Afr J Med Med Sci.* 1994 Jun;23(2):119–125. This study investigated the knowledge, attitudes, and personal behaviors of University students on AIDS. Two hundred fifty students from the University of Ibadan randomly selected from eight faculties were surveyed. Results indicated that 58.7% of the subjects knew that AIDS is caused by a virus but 72.6% thought the disease could be spread through kissing, hugging, or shaking hands, and 48.0% believe they cannot have AIDS. Most students showed a high degree of aversion to AIDS victims while about a quarter reported having multiple sexual partners in the last five years. The results suggest that well organized, specifically targeted educational programmes are needed for university students.

25. Conception of AIDS and its prevention among students in a Nigerian university. Odebiyi AI. *J R Soc Health.* 1992;112(2):59–63. This study examines AIDS awareness, knowledge of transmission, and prevention among students who not only belong to the sexually active age bracket, but who are the future leaders of the nation. The student population was stratified into those in the health and non-health disciplines and an accidental sampling technique was used to obtain the respondents from the two strata. Sixty students were interviewed from each stratum. A majority of the medical students, 58.3% as against 48.3% of the nonmedical students, perceived AIDS as a dreadful disease that is sexually transmitted. Next among the nonmedical students were those who felt that AIDS was God's punishment for man's sexual excesses (20.0%), while only 3.3% of the medical students gave that response. Of importance in the study is that none of the students attributed AIDS to mystical forces, an issue that could be linked to their educational exposure. Some students associated the disease with affluence, an issue that had been documented by other researchers. Another point worthy of note in the study is that even though 89% and 61.2% of the medical and nonmedical students, respectively, believed that AIDS can be prevented by the use of condoms, most of them were not favorably disposed toward the use of condoms. This study thus reveals an area that needs attention; that is, that apart from emphasizing the level of awareness, there should be a focus on how to effect behavioral change among a knowledgeable population.

26. A study on existing knowledge about AIDS among undergraduates of a Nigerian University. Gugnani A, Ukeje MA. University of Nigeria Teaching Hospital. *J Commun Dis.* 1993;25(2):52–56. This study, carried out during August–October 1991, involved 236 respondents to a questionnaire designed to determine awareness and attitudes to AIDS and the consequent effect of such awareness on their sexual behavior. Almost all the medical students were aware of the existence of the disease, while a few (3.8%) of the nonmedicos believed that it had not yet reached Nigeria. Most students (98% and 97% of these respective groups) were aware of carrier state of the disease. Only a small percentage of students, mostly medics, knew about the exact signs and symptoms of clinical AIDS. The level of knowledge about the modes of transmission of AIDS was found to be adequate. With regard to the effect of this awareness on their behavior, it was known that a good number of medics (30.37%) and nonmedics (28.88%) had started using condoms. About 40% of medicos, and 45% of nonmedicos revealed an aversion to sit near a person with AIDS, thus emphasizing the stigma associated with the disease. Regarding control of AIDS, many felt there should be strict isolation of HIV positive individuals along with a ban on prostitution and homosexuality.

A3. Youth in Cross-Cultural and Comparative Studies

27. Cross-cultural comparison of U.S. and Nigerian adolescents' HIV-related knowledge, attitudes, and risk behaviour: implications for risk reduction interventions. St. Lawrence JS, Marx BP, Scott CP, Uwakwe CB, Roberts A, Brasfield TL. *AIDS Care.* 1995;7(4):449–461. Attitudes toward AIDS prevention, AIDS-

related knowledge, and sexual behavior of Nigerian adolescents and their African-American counterparts in two geographic regions of the United States were compared to assess cross-cultural similarities and differences between the adolescents. This study was conducted as the first in a programmatic sequence of activities leading toward the adaptation of a risk reduction intervention that was developed in the United States for implementation with Nigerian youths. Subjects (n = 511) completed self-report measures of AIDS-related knowledge, attitudes toward condoms, attitudes toward AIDS prevention, and sexual behavior over the past two months, self- and response efficacy, and perceived vulnerability. Between-group comparisons revealed that U.S. adolescents were more knowledgeable, held more favorable attitudes toward prevention and toward condoms, reported more sex partners, engaged in higher frequencies of unprotected vaginal intercourse, and became sexually active at later age than Nigerian adolescents. The findings are discussed with respect to their implications for translating risk reduction interventions developed in the United States for African-American adolescents for later cross-cultural implementation with adolescents in developing countries where such risk reduction efforts are urgently needed.

28. AIDS-related beliefs and behaviours of students: evidence from two countries (Zimbabwe and Nigeria). Akande A. *Int J Adolescence Youth*. 1994;4(3–4):285–303. A survey administered to almost 1400 university students from Zimbabwe and Nigeria underscored the importance of educational programming that extends beyond the mere provision of knowledge about AIDS to provide adolescents with the interpersonal skills needed to reduce the risk of AIDS transmission. Included in the survey were 862 male and female students from the Obafemi Awolowo University in Ile-Ife, Nigeria, and 587 students from the University of Zimbabwe in Harare; the age range was 17–21 years. Overall, students were well informed about AIDS, with no significant differences by country or gender. The most commonly cited source of information was television. Despite adequate knowledge levels, there was a significant incidence of high-risk sexual behaviors. Of the students who had practiced oral or anal sex in the two months preceding the survey, only 24.8% had always used condoms and 29.4% had never used condoms. In general, condom use was not perceived as necessary in sexual encounters involving a regular partner. Condom users were significantly more likely than nonusers to have received safe sex counseling, perceive peers as supportive of risk-reduction behaviors, possess an accurate assessment of their personal risk, and have access to free condoms. In addition, female students were more likely than their male counterparts to ask partners about their sexual history, intravenous drug use, and blood transfusions. Urged is the elaboration of AIDS prevention models derived from psychological research pertaining to factors that influence risk behavior decision making processes.

29. HIV/AIDS-related social anxieties in adolescents in three African countries. Venier JL, Ross MW, Akande A. *Soc Sci Med.* 1998;46(3):313–320. This study examines the social anxieties associated with HIV prevention in adolescents in three African countries (Nigeria, Kenya, and Zimbabwe). The subjects used in this study were black Africans in form 2 or grade 10 in public high schools (Nigeria, n = 387; Kenya, n = 274; Zimbabwe n = 313). Subjects responded to the 33-item AIDS Social Assertiveness Scale (ASAS). Data indicated similar factor structures for each of the three countries and included five factors. The combined sample factor intercorrelations were modestly but significantly correlated. The mean scores for each factor were compared, and ANOVA of the factors by country, by gender, and by interaction between country and gender were performed. The factor structures were very similar between countries, each including five factors that had similar themes: condom interactions, refusal of risk, confiding in significant others, contact with people with HIV/AIDS, and general assertiveness. These factor structures were also very similar to one found in previous studies of Australian adolescents on the ASAS. The Kenyan means for four of the five factors were significantly lower than those for Nigeria, and were also significantly lower than the Zimbabwean means for two of the five factors, suggesting that Kenyan students are less anxious about social situations related to HIV/AIDS than others. Significant variance was found for several factors due to gender, country, and the interaction between gender and country. These results have important implications for designing education programs. The similarities of anxieties regarding HIV/AIDS social situations suggest that these clusters of social barriers to reduction of HIV infection risk might form the basis of educational interventions, and that dimensions of HIV social anxieties are similar across countries.

B. High Risk Groups and Circumstances

30. Behavioral Surveillance Survey Nigeria 2000: Technical Report—Female Sex Workers, Long Distance Drivers and In-School Youths. Family Health International, Lagos, in collaboration with NASCP, Federal

Ministry of Health, Abuja, and funded by USAID. The BSS studied 943 CSWs in Jigawa, Lagos, and Abia States; 984 long-distance drivers (LDDs) in Kebbi and Anambra States; and 1512 male and 1285 female senior secondary school (SSS) students in Ekiti, Enugu, and Katsina States. Half of commercial sex workers had been married, their median age at first sexual encounter was 15 years, and 75% had formal schooling. The median age when they started commercial sex work was 20 years. The truck drivers had a media age of 36 years, and 71% were over age 30. One-third had no formal schooling. The SSS students' ages ranged between 18 and 19 years. The median number of clients per commercial sex worker in the week preceding the survey ranged from 2 in Jigawa to 20 in Abia, with an overall median of 6. Poverty was the main reason cited for entering commercial sex work, and sex workers reported on average charging US$1.00 per session in Abia and US$2.00 in both Lagos and Jigawa. Younger sex workers and those with secondary or higher educational levels charged more. Commercial sex workers were more likely to report using condoms during sex with their last client (80%) than with the last sexual encounter with their regular/special sex partner (37%). Most (99%) sex workers said they knew where to obtain condoms, and they had a median of 8 condoms on hand at the time of the interview, although the median for Jigawa was only one. Condom use during last sex was positively associated with educational level. Overall, 2% of commercial sex workers never use condoms (40% in Jigawa) with paying customers, and 39 never use with their regular/special partners. Comprehensive knowledge of AIDS was defined as being able to list three correct preventive measures and mentioning no incorrect measures. Only 7% of sex workers had comprehensive AIDS knowledge. Sex with a sex worker in the past 12 months was reported by 12% of LDDs, and more than 20% also indicated having sex with a casual or other risky partner. LDDs who take alcohol were said to be seven times more likely to have had risky sex than those who did not. LDDs use of condom during last sex varied by type of partner: 8% with regular partner; 52% with commercial sex workers and 45% with a casual or higher risk partner. Only 24% could name two correct methods for preventing HIV/AIDS. Comprehensive AIDS knowledge ranged from 1% in Kebbi to 15% in Anambra State. Among male SSS students 24% had sexual debut compared to 19% of females. Rates in the northern State of Kebbi were between 25%–50% of those in the two southern states. Only 2.3% of female youth and 2.4% had been involved in commercial sex, and only 8.6% and 9.9%, respectively, said they had sex in the past six months. On average, females had one partner in that period compared to three for males. More than half (59%) the youth did not know a correct HIV/AIDS prevention method. Comprehensive AIDS knowledge among female students ranged from 4% in Ekiti to 11% in Katsina and Enugu. For men the range was 3% in Ekiti, 7% in Enugu, and 10% in Katsina.

31. Knowledge about AIDS and sexual behavior of inmates of Agodi prison in Ibadan, Nigeria. Okochi CO, Oladepo O, Ajuwon AJ. *Int Q Community Health Ed.* 2001;19(4):353–362. This study explored AIDS knowledge and sexual behavior of the 381 inmates of Agodi prison in Ibadan, Nigeria. Data were collected in 1997 through interviewer-assisted questionnaires. Men dominated the sample (94.5%) and 49.3% were younger than 30 years. Most respondents knew that HIV is transmitted through sex (96.6%) and transfusion with infected blood (94%); nevertheless, 30% believed the virus could spread through shaking hands with an infected person. Concerning sexual behavior, 53.3% masturbated; 46.5% engaged in risky sexual behaviors, comprising men who had unprotected sex with male partners (53.5%), female prostitutes (25.6%), and female inmates (20.9%). Younger inmates had more (71%) homosexual contacts than older inmates (29%) ($p < 0.05$). Homosexual practices prior to incarceration were unreported. Only 7.8% of sexually active prisoners used a condom. Although prisoners in Agodi were knowledgeable about HIV/AIDS, risky sexual practices persist. Multiple interventions are recommended to address this problem.

B1. Commercial Sex Workers

32. Sexual and health behaviour of commercial sex workers in Benin City, Edo State, Nigeria. Asowa-Omorodion FI. *Health Care Women Int.* 2000;21(4):335–345. In this paper, examined are the sexual and health behaviors of commercial sex workers in Nigeria, a high-risk group in this era of AIDS and HIV. The aim is to provide in-depth knowledge of their sexual networking and the prevalence rate of sexually transmitted diseases. This analysis is intended to highlight their implications in the spread and control of AIDS and HIV infection. The results of the study show the extensive sexual networking of commercial sex workers, the health implications, and the utilization of nonorthodox health services in diagnosing STDs. The implications of these results are the likely drain on the limited health resources of the Nigerian government and the harmful effects on the women, fetuses, children, and other sexual partners of clients of commercial sex workers.

33. Consistent condom use among sex workers in Nigeria. Oladosu M, Ladipo O. Washington: Population Services International, PSI Research Department Working Paper 3, 2001. (See also National behavioral survey 1: brothel based sex work in Nigeria. Ladipo O, Emmanuel AJ, Akinyemi Z, Ankomah A. Lagos: Society for Family Health; 2001). This study examined the factors influencing consistent condom use among sex workers in Nigeria. A nationally representative sample of 2,578 sex workers was interviewed in 1998, samples from seven states representing Nigeria's six health zones. Logistic regression was used to predict the effect of exposure to advertising for Gold Circle and Cool brand condoms (two popular socially marketed brands), knowledge of HIV transmission, number of regular partners, self-efficacy, risk perception, and demographic variables on consistency of condom use. Most sex workers lived in urban areas (84%), were younger than age 30 (74%), and more than half had secondary or higher education (55%). Most respondents had been involved for sex work for two years or less (73%) an had a regular partner (72%). Their average monthly income was N14,404, and the median number of clients per day was four. Overall, 9.7% experienced a STD in the previous two months. This ranged from 4.7% among those having only one customer per day to 15.4% of those having 6 or more. Sixty percent had sought treatment for STDs, most commonly in a clinic (private, 39.4% and government, 20.9%); 27.3% used a medicine seller/chemist/pharmacist; and 12.4% tried indigenous medicine. Although the majority of sex workers were worried about AIDS (81%), only 55% reported consistent condom use in the last five sex acts. Among sex workers who usually asked clients to use condoms (71% of the sample), 76% used condoms in the last five sex acts, compared with 8% of those who did not ask clients to use condoms. Reported condom use in the previous week by sex workers living in periurban "junction towns" was 77% compared with 97% among those based inside the cities. Despite reported condom use, 40% had experienced unwanted pregnancies, 87% of which were ended by abortion; 27% reported at least one abortion in the past year. Fifty-four percent had been exposed to two or more condom advertisements, while 15.5% had been exposed to none. Multivariate results suggest that sex workers who had been exposed to two or more sources of advertising for the aforementioned brands were about two times more likely to consistently use condoms than those who had seen no advertisements ($p < 0.001$). Sex workers who knew of two or more modes of HIV transmission were 44% more likely to consistently use condoms than those with no knowledge ($p < 0.05$). Sex workers who worried about contracting HIV were two times more likely to consistently use condoms than those who were not worried ($p < 0.001$). The most important predictor of consistent condom use was self-efficacy. Sex workers who asked their clients to use condoms were 39 time more likely to consistently use condoms than those who did not ask.

34. Human immuno-deficiency virus type 1 (HIV 1) infection among female prostitutes in Borno State, Nigeria: one year follow up. Chickwem JO, Mohammed I, et al. *East Afr Med J.* 1989;66(11):752–756. A total of 353 prostitutes were studied who were resident in hotels in Maiduguri, the capital of Borno State. Adolescents accounted for 14.7% of the population. Seroprevalence rates for all subjects had risen nearly 10% within the year studied. Most prostitutes were indifferent to the use of condom and did not appreciate the importance of protecting themselves from the risks of HIV infection. Also, their frequent mobility and relocation made it difficult for them to benefit from educational campaigns.

35. Prevalence of *Pthirus pubis* (Anoplura: Pediculidae) among sex workers in urban Jos, Nigeria. Imandeh NG. *Appl Parasitol* 1993;34(4):275–277. Between May and October 1992, 374 sex workers comprising of 372 prostitutes and 2 homosexuals were examined for *Pthirus pubis* infestation. While none of the homosexuals was found to be infested, 52.69% of the prostitutes were infested with the highest and lowest infestation in the 40- to 49-year–old group and the 20- to 29-year-old group, respectively. The educational level was found to determine the extent of disease awareness among the sex workers. Questions are raised about the role of *Pthirus pubis* is AIDS transmission among sex workers. (Although this article reports on the epidemiology of pubic lice, it is one of the few to refer to male homosexuals in Nigeria to be located on Medline. Also see Okochi et al., 2001, concerning prisoners, and Asuzu, 1994, where reference is made to a few respondents feeling sexually excited by persons of any sex, though none claim to be homosexual.)

B2. Mobility, Markets, and Motorparks

36. Rural-urban mobility in southwestern Nigeria: implications for HIV / AIDS transmission from urban to rural communities. Ososanya OO, Brieger WR. *Health Ed Res*. 1994 Dec;9(4):507–518. AIDS was not reported in Nigeria until five years after it was identified, and by the end of 1992, only 530 Nigerians were known to have contracted the disease. In order to determine how existing mobility patterns between the

rural township of Igbo-Ora and the urban center of Lagos could potentially contribute to the spread of HIV infections from the city to the countryside, an exploratory descriptive study was performed using data gathered from residents of Igbo-Ora through a cross-sectional survey and focus group discussions. Information was gathered on travel between Igbo-Ora and Lagos and on sexual contacts which the travelers had in Lagos. The survey sample included 377 residents aged 15–49 years. 62.3% were female and 81.7% had traveled an average of 3.6 times to Lagos in the preceding six months. Only 1.9% traveled with their spouses. Almost half of the respondents had sexual partners in Lagos, and 36% of these had more than one. A history of STDs were reported by 8.8% of respondents. Of these, 74.1% attributed the STDs to nonspouses, and 29.6% treated them with indigenous cures. The number of sexual partners decreased with educational level and age, and in those with a history of STDs. Borderline associations included that women reported fewer partners and single respondents reported more. Condom use was reported by 26.3% of the respondents or their partners, and condom use increased with education. Awareness of AIDS was reported by 67.5% of respondents, but 67.9% had no idea how the disease is transmitted, and 74% knew of no ways to prevent transmission. The score of AIDS knowledge was higher for men and with increased education. In the focus groups, discussants identified having multiple sex partners as risk behavior for STDs and AIDS. They also described factors which encouraged risky sexual behavior, including greed for economic gain, the existence of sexual networks, peer approval, and crowded housing conditions. Women traders were described as being especially able to conduct numerous clandestine affairs. Focus group participants felt that condoms were used mainly as a contraceptive. The importance of social networks in these communities should be exploited as a means of increasing knowledge about AIDS and its prevention.

37. Sexual behaviour and condom acceptance among Nigerian drivers. Araoye MO, Onile BA, Jolayemi ET. *West Afr J Med.* 1996;15(1):6–10. A survey of 180 randomly selected drivers was carried out in June 1994 in Ilorin, Nigeria in order to gain information about high-risk sexual behaviors, to ascertain condom use and to identify obstacles to condom acceptance so as to facilitate the design of an intervention to prevent STD/AIDS in this target population. Data were collected through face-to-face interviews. Three-quarters of the respondents were married. Multiplicity of sexual partners, including casual and commercial contacts, was common. Half the respondents engaged in high-risk sexual behavior and a high proportion of them (60%) reported unwillingness to use the condom. This was mainly due to general dislike and lack of knowledge of the method. Risk perception was poor. These findings support the need for male reproductive health services especially for this sub-population.

38. Perceived susceptibility to AIDS and attitude towards condom use among long distance truck drivers in Ibadan. Osowole OS. An MPH dissertation in the Department of Health Promotion and Education, College of Medicine, University of Ibadan; 1992. It has been recognized that the high mobility and lifestyle of truck drivers put them at risk on contracting AIDS. This study was carried out among long-distance truck drivers in Ibadan in order to assess their perceived susceptibility to AIDS and their attitude toward condom use. A total of 233 truck drivers were found in the trailer parks in Ibadan during the study period. Drivers were found to use nine major routes with stopovers in four northwestern states: 49% in Kwara State (Eyinkorin, Ilorin, Jebba), 66% in Niger State (Makira, Kontagora), 0% in Kaduna State (Kaduna, Zaria), and 30% in Sokoto State (Gusau, Yauri). The majority (54%) claimed to have one or more girlfriends in these stopover towns, the majority of whom (66%) were food sellers. The level of AIDS awareness was high at 94%, but their perceptions of susceptibility were low. Reported condom use was said to be 16% before hearing about AIDS to 8% afterward. Most (70%) use condoms only for pregnancy prevention, while only 30% use them for prevention of STDs. Only 32% had correct knowledge about condom use and only 9% had a favorable opinion of condoms.

39. The role of high-risk occupation in the spread of AIDS: truck drivers and itinerant market women in Nigeria. Orubuloye IO, Caldwell P, Caldwell J. *Int Family Plann Perspect.* 1993;19:43–48. Female adolescents are more vulnerable than males to sexual exploitation because some older men prefer young girls as sex partners because these men assume that the girls are sexually inexperienced, are less likely to be commercial sex workers, and therefore are not likely to have an STD. Fifteen percent of the 467 young female hawkers surveyed in bus and truck stations in Ibadan had lost their virginity to rape by male partners. The study found that women were expected to play a compliant role in sexual relationships.

40. Sexual networking among market women in Benin City, Bendel State, Nigeria. Omorodion FI. *Health Transition Rev.* 1993;3(suppl):159. A survey of market women was conducted in Benin City. These women

are vulnerable to HIV/AIDS and STD infections because their trading activities involve long-distance traveling away from families and sexual exposure to strangers. The questionnaire included questions on socioeconomic background, sexual and health behavior. Results indicate that there is a high level of sexual networking, especially extramarital: 26% of the women have sexual intercourse with strangers, and 70% have extramarital sexual relationships. A high proportion of the market women and those in close contact have contracted STDs. It is evident, therefore, that public-health education concerning AIDS and STDs is urgently needed.

41. Knowledge of AIDS and risk sexual practices among female adolescent hawkers in truck and bus stations in Ibadan, Nigeria. Ajuwon AJ, Osungbade KO, Fawole OI. *Int Q Community Health Ed* (in press). This study explored the AIDS knowledge and sexual practices of 228 young female hawkers in four bus and truck stations in Ibadan, Nigeria. Fifty-one percent did not know that a girl could become pregnant during her first sexual encounter; 71.7% and 65.6% knew of the sexual and perinatal routes of transmission of HIV infection, respectively. However, a large proportion believed that the virus could spread through sharing eating utensils (60.4%) and toilets (59%) with infected persons. Forty-two percent had ever had sex; only 16.1% used a condom during the first episode of sex, 83.9% did not. Sixty-two percent of sexually experienced hawkers were sexually active in the three months preceding the survey. The frequency at which they had sexual intercourse during the period ranged from one to six times. Thirty-two percent of these sexual encounters were protected from pregnancy, 68% were not. Half (50%) of those who took a precaution to prevent pregnancy reported that their partners used a condom, few received injectable contraceptives (5%); others took analgesics, purgatives, and self-made concoctions (45%). Four percent of sexually active subjects were raped in the course of trading in the stations. We propose appropriate recommendations to address risky sexual practices.

42. Sexual Practices, Knowledge and Attitude on Sexually Transmitted Infections among Migrant Farm Workers in Ibarapa Central Local Government Area of Oyo State. Oyadoke AA. A dissertation in the Department of Health Promotion and Education, University of Ibadan, Nigeria; September 2001. The study sought to provide information on sexual practices, knowledge, and attitudes on STIs among migrant farm workers (MFWs) in the Ibarapa central local government area (LGA) of Oyo State, Nigeria. The study population consisted of all MFWs who were present in the LGA during that period. No previous census of MFWs existed. Therefore, it was necessary to visit all wards in the two main towns, Idere and Igbo-Ora, and all 217 satellite farm hamlets in the LGA. Both towns and 67 of the hamlets had a resident MFWs population of 482. All team leaders were interviewed using questionnaire. A team consists of an experienced farmer (leader) with one or more other farmers that are working under him. In teams with fewer than four members, excluding the leader, one member was randomly chosen for interview by balloting, and in larger teams two were randomly selected, yielding a total of 244 respondents. The researcher and one trained assistant conducted all interviews. A scale of 0–17 points was used to score respondents' knowledge about STIs while an attitude scale of 11–55 points was used to determine their attitude toward condom use. Nigeria was the country of origin for 146 respondents (59.8%), 67 (27.5%) were from the Republic of Benin, and 31 (12.7%) were from Togo. Altogether, 199 (81.6%) had sex before the study. A total of 77 (32%) respondents who were sexually active in the previous month reportedly had an average of 1.2 partners, including wives (23.6%), girlfriends (16.1%), prostitutes (3.0%), and casual partners (girls from the town) (4.5%). The average age was 31.3 years, but those who had had sex were significantly older on average (32.9 years) than those who had not (24.4 years) ($p < 0.0001$). Twenty-one (27.3%) respondents who had had sexual intercourse in the previous month reported using a condom at least once, while only 16 (20.5%) used it every time. Those who had sexual intercourse in the previous month scored higher on the knowledge scale (6.7), than those who did not (5.9). Among those who had sexual intercourse, the mean knowledge score was significantly higher ($p < 0.05$) for those who used condoms (7.6) than those who did not (6.4). Those who had sexual intercourse in the past month had a significantly more positive mean condom attitude score (38.0) than those who did not (35.0) ($p < 0.001$). Among those who had sexual intercourse in the previous month, the attitude score was significantly higher ($p < 0.001$) for those who used condoms (42.2 points) than those who did not (36.4). Condom use by those who had sex in the month prior to the survey was positively associated with knowledge about STIs, attitudes toward condoms, self-efficacy perceptions concerning preparation for condom use and actual use with a partner, seeking of advice from others, knowing someone else who used condoms and perceptions that STIs were serious. These social and cognitive factors can be applied in the PRECEDE (predisposing, reinforcing and

enabling causes in educational diagnosis and evaluation) Framework to help develop health education strategies to help prevent the spread of STIs among MFWs.

43. Reproductive health needs of young persons in markets and motor parks in south west Nigeria. Dare OO, Oladepo O, Cleland, Badru OB. *Afr J Med Sci.* 2001;30:199–205. The aim of the study was to assess the reproductive health needs of out-of-school men and women aged 12–26 years working in markets and motor parks in Ibadan using focus group discussions (FGDs) and a survey questionnaire. Result revealed that sexual experience was higher among men (80%) than women (66%). Multiple concurrent sexual partnership were found to be common among unmarried young men (71%) than women (51%) but means to prevent pregnancy or STDs were rarely employed. The knowledge of HIV was high (70%), though very few (12%) were aware that an infected individual would remain asymptomatic. Moreover, 36.5% thought that condoms make sex less enjoyable. Between 6% and 9% used a method for disease prevention within marriage or regular partnerships compared to 16% in casual contacts. Despite high exposure to risk, the prevalence of STDs was low, as only 4% of the sexually experienced men and 9% of women were infected with *Candida Albicans*, *Chlamydia trachomatis,* and *Trichomonas vaginitis* or *Neisseria gonorrhea.* The ready availability of antibiotics may account for this apparent discrepancy. These findings suggest that out of school adolescents working in motor parks needs sexuality education and counseling backed up with clinical services.

44. Sexual Relationship, Communication and Risk Perception Among Adolescents and Young Adults in Markets and Motor-parks in South-West Nigeria. Ogbazi Josephine Elewechi. An MPH dissertation in the Department of Health Promotion and Education, College of Medicine, University of Ibadan; 1998. It has been observed that partnership definition, sexual phraseology, and risk perception among adolescents and young adults vary in content an context in different socioeconomic, cultural, and occupational settings. The understanding in the variations in the meanings and use of these terms in important for the design of appropriate situations-specific educational programs. In Nigeria, adolescents and young adults working in motor parks and markets have been recognized as a high-risk group for the transmission of sexually transmitted diseases (STDs) including AIDS, and high rates of unwanted pregnancy. This study focuses on this group to determine their peculiar characteristics of sexual partnership, phraseology, and risk perception that can be used in the formulation of effective education interventions. The study covered all the seven state in the southwest zone. The local government areas (LGAs) in each state were stratified by geographical locations and one LGA was randomly selected from each location resulting in a sample of 20 LGAs out of a total of 137 LGAs. One motor park or market was selected in each LGA by balloting and a focus group discussion (FGD) was carried out there among people aged 14–24 making 20 FGDs. This was followed by an in-depth interview with the informal leader of each FGD group. Also, 30 key informants among trade union leaders (National Union of Road Transport Workers and Market Association) were interviewed in the LGAs to gain an insight into their organizational set up, which will be useful for implementation. Two partnership types, nonsexual and sexual, were identified. The nonsexual partnerships were generally more acceptable to the target group. These included boyfriend/girlfriend, trading associates, and marriage suitors. The stability of this type of partnership varied and sometimes progressed to sexual partnership depending on the intention and interest of the partners concerned. The sexual partnership types were regular, casual, and commercial. Only the regular partnership was considered acceptable to the target population. Casual and commercial partnerships were no so perceived. With respect to sexual phraseology, expressions used by the adolescents and young adults for sexual negotiation were those that aroused feelings of intimacy (Kinesthetic communication). These included “darling” and “my dear” used by nonsexual partnership types and “honey,” “opio” (baby), “customer,” and “dear” by sexual partnership types. The nonpartnership types were not as concerned about reproductive risks as the sexual partnership types. Risk perception occurred when they progressed to sexual relationship/partnership. These risks were mainly fear of unwanted pregnancy and STDs, including AIDS. Among the sexual partnership types however, the commercial sex workers did not perceive STDs, including AIDS as a big risk. Risk perceptions were not associated with setting (urban/rural, motor parks/markets) and gender.

45. HIV/AIDS and Failed Development. Collins J, Rau B. Geneva: United Nations Research Institute on Social Development; 2000. (See also http://www.unrisd.org). Reposted by Africa Policy Information Center apic@igc.org on 31 October 2000. The report makes two references to Nigeria. 1) Rural communities in West Africa known for out migration (mostly to the southern areas of Côte d’Ivoire) such as the area of Tambacounda in Senegal, Sikasso in Mali, the district of Manya Krobo in Ghana, the area of Mono

in Benin and the Otukpo Local Government Area in Nigeria are recording HIV infection rates two to three times that of the national rates. 2) Young men from Burkina Faso, Sierra Leone, and other West African countries found opportunities constricted by economic crises in labor absorbing countries (Côte d'Ivoire and Nigeria). Young people were blocked from economic opportunity in their home areas (where very limited opportunities existed) and through the migrant labor system. The shocks that ran through the system included loss of income, loss of self-respect and confidence, rejection as "marginal" and unemployed (i.e., street people, thieves, beggars). Overall, the shocks of disillusionment and social rejection made the long-term prospects of dying from AIDS far less compelling than the immediate needs for food or companionship and social acceptance.

46. Trafficking nightmare for Nigerian children. BBC World Service (www.bbc.co.uk\worldservice). Thursday, 20 July, 2000, 15:22 GMT. The BBC has learned that many of the hundreds of girls from Nigeria sold into sexual slavery in Europe each year have been trafficked through England. Young girls were arriving from West Africa and claiming asylum at major British airports. Because they were under 18, they were then taken into the care of social services and placed in children's homes or foster care. Within a number of weeks, there would be a mysterious phone call and the girls would disappear. The detectives established they were then being transported to a number of European countries, in particular Italy, where they were forced into prostitution. Osamede Iguobaro was just 14 when she was approached at a local market. She was told she would earn big money pleating hair in Italy. She was smuggled across a number of West African countries to the Ivory Coast where she was sold to a Nigerian woman—a "Madame" based in Italy. Like so many other teenage girls, she was forced to become a prostitute. The teenagers are recruited by a local agent, a sponsor, who pays for their journey abroad, as well as the bribes and false documents necessary to get them there. The average income has slumped to around $350 a year. The result is that traditional values and family ties are weakened to breaking point and the prospect of making money abroad is proving an irresistible lure. The teenagers are recruited by a local agent, a sponsor, who pays for their journey abroad, as well as the bribes and false documents necessary to get them there. Voodoo is used to coerce the girls into working for their sponsors. They are then transported on an often fatal journey through a number of West African countries until they reach their departure point where they are sold on to their madame. Jane Osagie, coordinator of Nigeria's International Reproductive Rights Research Group, has worked with a number of girls who have been trafficked. "A lot of them die," she says. "A lot don't come back. There were two girls who were trafficked and because they refused to go into the trade, they were banned from eating." With debts of up to $50,000, it can take two or three years working night and day to pay off the money. The physical and psychological debts are enormous. Much responsibility lies with the Nigerian authorities, but the U.K. and Europe as a whole have a much larger role to play. Greater police cooperation across borders, harsher sentences for the perpetrators, and specific anti-trafficking legislation as well as more resources would also reduce the exploitation and enslavement of young girls from Nigeria.

C. Contraception, Condoms, and Abortion

47. Consistent condom use with different types of partners: evidence from two Nigerian surveys. Van Rossem R, Meekers D, Akinyemi Z. Washington: Population Services International, PSI Research Division Working Paper 31; 2000, and *AIDS Ed Prev.* 2001;13(3):252–267. HIV prevalence in Nigeria is increasing rapidly. Increased condom use is the most viable solution to slow down or reverse this trend. This paper uses data from two waves of a nationwide survey conducted by Research and Marketing Surveys, Ltd. For the Society of Family Health in June and December 1998. Each survey included more than 5000 respondents to examine factors that influence consistency of condom use with various types of partner. The sample was nearly equally divided between women and men who had a mean age of 28.7 years. The results show that while the overall level of consistent condom use has remained low, reported consistent condom use with occasional partners and commercial sex workers exceeds 60%. Consistency increased as type of partner became more nonregular: 1.8% for spouse/concubine, 28.7% for boy/girlfriend and 63.4% for others. Men reported higher consistent condom use than women in all three categories of partner. There is also some evidence of an increasing trend in consistent condom use. The most important factors affecting consistency of condom use include awareness of the effectiveness of condom for the perception of HIV and unwanted pregnancy, and concerns about unwanted pregnancy and HIV. Concern about unwanted pregnancy has a strong effect on consistency of condom use with stable partners, while concern about HIV infection has a strong effect on consistency of condom use with non-stable partners. The results suggest

that HIV prevention programs need to do more to provide education about the modes of transmission and the ways to prevent infection. Improving the effectiveness of HIV prevention program is likely to require focusing more explicitly on people's personal risk perception and condom efficacy. Focusing on these topics may further accelerate the observed positive trend in condom use.

48. Sexual activity, contraceptive practice and abortion among adolescents in Lagos, Nigeria. Odujinrin OM. *Int J Gynecol Obstet.* 1991;34(4):361–376. Nine hundred fifty randomly selected secondary schoolgirls were surveyed, the youngest of whom was age 12. Twenty-nine percent claimed that they were sexually active; however, age had no influence on the frequency of sexual intercourse. Multiple sexual partners, a high-risk behavior for contracting sexually transmitted diseases, including AIDS, was demonstrated in 33.7%, and only 20.3% used orthodox methods of contraception. Induced abortion was procured by 23.5% and most were procured from unskilled personnel and through unsafe methods.

49. Adolescent induced abortion in Benin City, Nigeria. Omu AE, Oronsaye AU, Faal MK, Asuquo EE. *Int J Gynaecol Obstet.* 1981;19(6):495–499. Induced adolescent abortion is a major cause of maternal and gynecologic death in the University of Benin Teaching Hospital, where 244 out of 349 such cases seen from January 1, 1974 to December 31, 1979 were reviewed. Ignorance and lack of contraceptive facilities were contributory factors. To deal with this problem that has been pervasive throughout Nigeria for the past decade, the authors advocate sex education, systematic dissemination of information for planned and conscientious parenthood, as well as free availability of alternative methods of contraception. Interruption of early pregnancy should be an essential component of a national family planning program.

50. Use of health belief model to predict condom use among university students in Nigeria. Edem CU, Harvey SM. *Int Q Community Health Ed.* 1984–85;15(1). The purpose of this study is to use the concepts of the Health Belief Model (HBM) to predict self-reported condom use among university students in Nigeria. A sample of 395 students enrolled in a required course at a University in Nigeria completed a self-administered questionnaire. The HBM guided instrument design. Regression analyses were used to test the HBM variables (susceptibility to and severity of AIDS benefits and barriers to condom use, cues to action, AIDS knowledge, and demographics) in predicting condom use, past and intended. The results indicate that condom benefit beliefs, condom barrier beliefs, cues to action, knowledge, and male gender were significant predictors of past condom use. Perceived barriers to condom use, perceived benefits of condoms use, and male gender were significant predictors of intentions to use condoms. These findings have important implications for the design of interventions to increase condom use among young adults in Nigeria.

51. Sexual activity and attitudes toward contraception among women seeking termination of pregnancy in Zaria, Northern Nigeria. Ujah IAO. *Int J Gynaecol Obstet.* 1991;35:74–75. In a survey of attitudes regarding abortion in Zaria, 58% of abortion clients aged 15–38 had unsuccessfully tried to induce abortion.

52. Quality and costs of family planning as elicited by an adolescent mystery client trial in Nigeria. Olowu F. *Afr J Reprod Health.* 1998;2(1):49–60. Results are presented from a rural reproductive health project in Delta State of Nigeria. A baseline survey of family planning clients revealed that only 2% of adolescents were utilizing the services. Therefore, four adolescents, two males and two females, posing as two couples, were used as mystery clients to assess providers' response to adolescents, as well as the adolescent perspectives on the quality and costs of the family planning services in the clinics they visited. This was complemented with a participatory rural appraisal of the communities. The adolescent mystery clients reported that some providers were surprised to see them, were judgmental, and engaged them in religious counseling. The adolescents found the services unsatisfactory, but the costs were affordable. In the participatory rural appraisal, the communities found the cost of contraceptives affordable despite a recent price increase of 20%–150% across the different contraceptives. Emerging practices that were detrimental to adolescent reproductive health were also discovered and innovative approaches for promoting access to reproductive health information by out-of-school adolescents through the use of artisan trade associations and home videos are suggested.

53. Sexual Behaviour and Negotiation of Condom Use by Female Students of the University of Ibadan, Nigeria. Iwuagwu SC. A dissertation in the Department of Health Promotion and Education, University of Ibadan, Nigeria; 1998. This study explored the sexual behavior of unmarried female students of the University of Ibadan, Nigeria, and assessed the extent to which those who were sexually active negotiated

and used the male condom. Four focus group discussions were conducted followed by a survey of 354 students. The results show that the mean age of the students was 18.5 years; 55.1% had sexual intercourse; the mean age at first intercourse was 18.6 years. The number of lifetime sexual partners ranged from 1 to 20 with a mean of 3.4; 75% of those who had ever had sex reported ever using condom; 16.9% and 39% used it during their first and last sexual episodes, respectively; only 34.3% used a condom consistently. Therefore, most are at risk of the unintended outcomes of unprotected sex. Seventy-three percent had ever negotiated condom use with a partner, but only 41% did so during their last sexual encounter. Condom negotiation was positively associated with self-efficacy perceptions, attitudes toward condoms, and preparatory behaviors including purchase and carrying of condoms. Focus group discussion results indicated that such behaviors were at variance with conservative sexual norms and roles. At the same time, survey results, show that these norms are not universal and therefore, could be subject to change. Appropriate interventions are needed to enhance HIV and condom knowledge, condom negotiation self-efficacy perceptions and attitudes toward condom use in order to address the problem.

54. Adolescent sexual behavior and condom use in Ile-Ife, Nigeria. Jinadu MK, Odesanasuzu mi WO. *Clin Nurs Res.* 1993;2(1):111–118. A study to identify risky sexual behaviors related to condom use was conducted in a Yoruba-speaking urban area of Nigeria. The subjects were 256 randomly selected male high school students, 15–19 years of age, who completed a self-administered questionnaire. The majority (79%, or 194) reported having had heterosexual intercourse in the previous 12 months, 9 (4.6%) with prostitutes and 107 (55.4%) with more than one sexual partner. Three subjects who had more than one sexual partner and 1 of the 9 who had sexual intercourse with a prostitute had used a condom. Condoms were reported to be used only for the prevention of unwanted pregnancy by 61.3% of the students. Implications of these findings for adolescent AIDS education in Africa are discussed.

55. Contraceptive method choices among adolescents in a Nigerian tertiary institution. Araoye MO, Fakeye OO, Jolayemi ET. *West Afr J Med.* 1998;17(4):227–231. This study was undertaken to describe adolescents' use of contraceptive methods and to examine factors that motivate their choice. Face-to-face interview of single, randomly selected 971 males and females aged 18–24 years in a Nigerian tertiary institution was conducted. Among sexually active males and females, 72% and 81%, respectively, had ever used contraception. The commonest methods ever used by men and women, respectively, were the condom (43%) and rhythm (31%). While women were mainly motivated by pregnancy prevention irrespective of the sexual relationship, men were more concerned about disease prevention in unstable sexual relationships. However, adolescents whose choice was motivated by disease prevention did not chose the condom significantly more frequently than other methods. The college clinic, complimented by other programs, should be strengthened for reproductive health services.

56. Awareness and practice of contraception among female students at the Institute of Management and Technology, Enugu. Ozumba BC, Amaechi FN. *Public Health.* 1992;106:460–461. A study of female students in Enugu showed that of 42% objecting to contraception, 61% believed that contraceptives can cause infertility. Seventy-six percent of sexually active female students surveyed did not use contraception at first intercourse. Of those using contraception, rhythm or condoms were most popular.

57. Factors determining the choice of contraceptive methods at the Family Planning Clinic, University College Hospital, Ibadan, Nigeria. Konje JC, Oladini F, Otolorin EO, Ladipo OO. *Br J Family Plann.* 1998;24(3):107–110. In a study of 2000 women volunteers seeking contraceptive services at the Family Planning Clinic (FPC), University College Hospital, Ibadan, Nigeria, 66.2% chose the intrauterine device (IUD), making it the most common method of contraception. Factors influencing choice of contraceptive methods were advice from friends and family members, intended duration of use, and information from the media. Ignorance, fear, and unfounded cultural beliefs were factors responsible for the delay in seeking contraceptive advice. The mass media was an important source of information for most of the women. We conclude that the IUD is the contraceptive of choice in our clinic because of the highly selective nature of our clients. In order to provide a service with a broader clientele, we suggest the incorporation of other priority reproductive health services such as cervical and breast cancer screening, prevention and the treatment of preproductive tract infections and sexually transmitted diseases, including HIV/AIDS.

58. Postpartum sexual abstinence, breastfeeding, and child spacing, among Yoruba women in urban Nigeria. Feyisetan BJ. *Soc Biol.* 1990;37(1–2):110–127. This paper examines the extent to which the traditional

practice of sexual abstinence during lactation has broken down among Yoruba women residents in urban areas. The first major finding is that there is a gradual erosion of the tradition, and the dominant factors of modernization are education of the woman and the use of contraception. The second major finding is that the breakdown of postpartum sexual taboos has statistically significant negative consequences on duration of lactation, although the negative impact of woman's education is greater. The third major finding is that duration of breastfeeding reduces birth interval significantly only when it is less than 15 months, and that both durations of breastfeeding and birth intervals have declined over time. The first two findings suggest further reductions in the proportion of women who abstain from sexual relations during lactation and in durations of breastfeeding as more women become more educated. Significant declines in birth intervals may follow soon after.

59. Assessing the prevalence and determinants of unwanted pregnancy and induced abortion in Nigeria. Okonofua FE, Odimegwu C, Ajabor H, Daru PH, Johnson A. *Stud Fam Plann.* 1999;30(1):67–77. This study was conducted to determine the prevalence and sociodemographic determinants of unwanted pregnancy and induced abortion in the Jos and Ife local government areas of Nigeria. A total of 1,516 randomly selected women aged 15–45 responded to a pretested structured questionnaire designed to elicit information concerning previous unwanted pregnancies and induced abortions in a value-free manner. Nearly 20% of the women reported having had an unwanted pregnancy. Of these, 58% reported that they had successfully terminated the pregnancies, 32% continued the pregnancies, and nearly 9% stated that they had attempted termination but failed. Overall, the prevalence of self-reports of induced abortion was 11%. The results reveal that information can be obtained on abortion in areas with restrictive abortion policies if an indirect interviewing approach is used.

60. Case studies in emergency contraception from six countries. Glasier A, Ketting E, Palan VT, Browne L, Kaur S, Bilian X, Garza-Flores J, Estrada V, Delano G, Faoye G, Ellerston C, Armstrong E. *Int Plann Perspect.* 1996;22(2):57–61. (Although emergency contraception does not prevent HIV/AIDS transmission, it may serve as an indicator of unprotected sex, and thereby be relevant to HIV transmission. The following excerpt from the article focused on Nigeria.) Traditional fertility control methods in Nigeria include several that are used either immediately after unprotected intercourse or when a pregnancy is first suspected. Among these are potash mixed with bluing, lime taken in high concentration with cayenne pepper seeds, and a codeine tablet used together with illicit gin. Nigerian women are also gradually learning that altered doses of oral contraceptives can function as emergency contraceptives. No data are available on the prevalence of emergency contraception or on the costs or hormonal regimens in Nigeria. An IUD insertion costs $23 in a private hospital. Codeine and gin costs about $2.25; the other traditional emergency contraceptives are very inexpensive.

61. Responses of unmarried adolescents to contraceptive advice and service in Nigeria. Ezimokhai M, Ajabor LN, Jackson M, Izilien MI. *Int J Gynaecol Obstet.* 1981;20(6):481–485. The responses of a group of all unmarried, sexually active teenagers in a developing country to offers of contraceptive service were assessed in a prospective, 30-month study at a teaching hospital family planning center. Teenagers of this group constituted 7.2% of the clinic population. The default rate was very high (43.0%) and was most noticeable among users of oral contraceptives. The intrauterine device seemed more acceptable, as were injections of norethisterone enanthate. Possible reasons for this pattern of response are given, and the authors suggest giving new consideration to making the intrauterine device more suitable for and acceptable to teenagers of developing countries. The place of norethisterone enanthate in teenage contraception is also discussed. (Although not related directly to HIV prevention, the article demonstrates different user and acceptability factors that may also influence acceptability of technologies that are efficacious for both contraception and AIDS prevention).

D. Community Norms and Practices

D1. Sexual Behavior, Norms, and Attitudes

62. Nigeria Demographic and Health Survey 1990. Columbia, Maryland: DHS, IRD/Macro International; 1992. Median age at first intercourse for girls was just over 16 years, three-quarters of a year earlier than median age at first marriage. By age 18, 63% and by age 20,approximately 80% of women had experienced sexual intercourse. Among urban women 15% those aged 15–16 years had ever had sex, but rose to

43% of those aged 17–19. Among rural women, 12% had sex by the time they were 15–16 years, and 31% by ages 17–19. Nationwide, 5.9% of 15- to 19-year-old females currently used contraception, two-thirds of whom used traditional methods including rhythm or withdrawal. One percent used oral contraceptives, and less than 1% used condoms, foaming tablets or IUDs. Over half of all women had become mothers by age 20 years, and 10%–12% had given birth by the age of 15, and 34% of 15- to 19-year-old females were married. Among youth aged 12–24, 20% of females were married compared to 3% of males.

63. Nigeria Demographic and Health Survey 1999. National Population Commission, Abuja, and ORC/Macro, Calverton, Maryland; 2000. (Only the data relating to HIV/AIDS are summarized here) The 1999 Nigeria Demographic and Health Survey (National Population Commission, Abuja, 2000) reported on several key HIV/AIDS behavioral and behavior antecedent indicators among the 8,206 women and 2,680 men interviewed. These findings provide an important background to assessing past behavior change intervention programs and developing future action. Antecedents included awareness, knowledge, and perceptions of risk. Men (89.5%) were more likely to have heard of HIV/AIDS that women (74.4%). Awareness increased with educational level until at the level of higher education, men and women were equally aware. Urban residents had were more likely to have heard for both men (95.3%:86.9%) and women (86.7%:68.5%). There was also greater awareness in the southern and central parts of the country. Among those who were aware of AIDS, 64.0% of women and 74.5% of men knew a correct method of AIDS transmission. The most commonly mentioned methods by men were keeping to one sexual partner (43.1%) and avoiding sex with prostitutes (42.9%). Among women the most commonly mentioned ways were keeping to one sexual partner (51.8%) and ensuring safe injections (22.4%). Generally, knowledge increased with educational level. Most women (86.4%) and men (85.4%) who were aware of AIDS said it was almost always fatal. Many women (60.8%) and men (60.7%) thought that a healthy looking person could have the AIDS virus. About one-third said they knew someone who had AIDS or had died of the disease. There was low perception of personal susceptibility. Belief that one had no risk or little risk of contracting AIDS was similar for men (64.4%:30.0%) and women (65.5%:25.5%). Among couples, 85.9% of partners were in agreement that their personal risk was small or nonexistent. Concerning behavior, 74.5% of women who had heard of AIDS said they had changed their sexual behavior after hearing compared to 85.1% of males. Such changes included keeping virginity, abstained, used condoms, staying with one partner, fewer partners, avoiding prostitutes, no homosexual contact, and asking the spouse to be faithful. Among those who had sex in the preceding 12 months, 6.5% of women and 14.8% of men reported using a condom during their last sexual encounter. This increased with educational level, and was more common in urban areas and among unmarried respondents (40.0% of never-married men and 22.8% of never-married women). Overall, 5.5% of women and 11.3% of men reported that they had ever given or received money, gifts, or favors for sex.

64. Socio-Cultural Perceptions of Masculinity in an Indigenous Community in Ibadan: Implications for Reproductive Health. Oyewole OE. (An MPH dissertation in the Department of Health Promotion and Education, College of Medicine, University of Ibadan; 2001). Men's decision on family matters, especially on reproductive health, are greatly influenced by what they consider as proof of masculinity. Masculinity is a gender concept socially constructed to specify which attributes a man should possess to qualify him as a "man" in his environment apart from the biological characteristics. Even though the roles of men vary from culture to culture, these roles may be classified into what the society expects of them and what they think of themselves as men. These two considerations shape the behavior of men in any spheres of life including their attitude toward some reproductive health issues. The aim of this study was to assess those masculine traits, which may have influence on reproductive health status of the family with the hope of making appropriate recommendations to reduce the effect of negative perceptions of masculinity. This descriptive study was carried out among the indigenous people in Ibadan Southeast Local Government Area. The local government has three distinct communities, which include the inner core, the transitory and peripheral areas. The indigenous people who are still strongly attached to their cultural values mainly inhabit the inner core. A multisampling procedure was used to select 417 respondents for the study. The instrument used for the study included focus group discussion, in-depth interviews, and structured and unstructured questionnaires. Focus group discussion and in-depth interview results revealed that the respondents viewed masculinity from three main perspectives. These include reproductive responsibilities, leadership qualities, and physical/social maturity. These results were then used to develop the study questionnaire for quantitative data collection. Two hundred seventy-eight men and 139 women of reproductive health age (20 years and older) (Marriage Act, 1990) were involved in the study. The largest age group of

respondents was 26–35 years, constituting 161 (38.6%). Further data analysis using proportion, frequencies, and percentages revealed that 145 (52.2%) men and 68 (48.9%) women considered the number of wives and children a man has as his proof of masculinity. In the same vein, 201 (72.3%) men and 84 (60.4%) women agreed that a masculine man should take sole decision on his family size. This perception of masculinity also affects the use of contraception by the woman as 152 (54.7%) men and 67 (48.2%) women were of the opinion that masculinity of the man should be reflected on his approval of contraceptive use. However, some positive perception of masculinity include the ability of the man to provide for the financial needs of the wife as this relates to her health especially on reproductive issues. One hundred eighty-four (66.2%) men and 73 (52.5%) women supported this. In addition, only 85 (30.2%) men and 44 (31.7%) women agreed that giving birth to a male child had to do with the masculinity of a man. Also, 183 (65.8%) men and 94 (67.6%) women agreed that a masculine man should be bold enough to tell his wife if he contracted a sexually transmitted diseases. This study has revealed that there are some perceptions of masculinity, which may have negative consequences on reproductive health status of the family. These include having many wives and children, nonconsideration for the wife's opinion on family and total control of contraceptive use in the family. Therefore, it becomes imperative that health education counseling should include broad discussion on equal consideration for men and women on the issues bordering on reproductive health.

65. Sexual Behavior and Exposure to the Risk of AIDS in Nigeria. Isiugo-Abanihe UC. Faculty of Social Sciences, University of Ibadan, Faculty Lecture Series 8; 1993. (See also Isiugo-Abanihe UC, Male Contraception in Nigeria: Determinants, Patterns, and Motivation for Condom Use. Research report submitted to the Special Programme of Research, Development and Research Training in Human Reproduction, World Health Organization, Geneva, 1992; and Isiugo-Abanihe UC. Sexual behaviour in marriage: coital frequency, extramarital relations and risk of AIDS in urban Nigeria. In *Reproductive Health in Africa*, Dakar: Union for African Population Studies; 1993, pp. 555–582.) A study was conducted on the sexual behavior of couples in Ekpoma/Irrua, Ibadan, Jos, Owerri, and Zaria including coital frequency, extramarital relations, and sexual partners in relation to AIDS awareness and perceptions. Women (61%) were more likely than men (47%) to report having no sexual relationships since they were married. Among those who were sexually active in the previous week, 18.3% of men and 10.5% of women had a sexual encounter outside marriage. Such liaisons were mostly with boyfriends/girlfriends (34% men, 10% women) and casual acquaintances (11% men, 39% women). Among both men and women, younger ones were more likely to have had extramarital sexual relations in the previous week than those 30 years and older. Extramarital sexual encounters were more likely as educational level increased in both men and women. Among women, those in monogamous relations were more likely to remain faithful than those in polygamous marriages. There was no difference among men in different types of marriages. Emotional bonding between spouses or spousal closeness was positively associated with remaining faithful to one's marriage partner. AIDS awareness was reported among 85% of men and 79% of women. Many also held erroneous ideas about causation including handshaking, sharing clothing, and use of toilets. The mass media was the most common source where respondents first heard of AIDS, followed by friends and relatives. Awareness of AIDS was reported to have led to modifications of sexual behavior in 29% of men and 10% of women, particularly being more selective in choosing extramarital partners. Among those who heard of AIDS, 53% of men and 74% of women reportedly never had extramarital sex.

66. Sexual Practices That May Favor the Transmission of HIV in a Rural Community in Nigeria. Ajuwon, Ademola J, Oladepo O, Adeniyi JD, Brieger WR. *Int Q Community Health Ed.* 1993–94;14(4):403–416. HIV/AIDS has been documented as a primarily urban phenomenon in Nigeria, but the risk of HIV spreading to rural communities where the largest portion of the population lives persists. To explore sexual practices with potential for introducing HIV into a rural community, interviews with 7 key informants and 5 commercial sex workers, and focus group discussions with married and single male and female residents were held in a rural Yoruba community in northern Oyo state. It was concluded that likely entry routes for HIV were through commercial sex workers because of their own mobility and the mobility of their migrant farm laborer and commercial driver clients, and through townspeople returning home from large urban centers to celebrate holidays and festivals. Extramarital sexual relations exacerbated by a taboo against sexual intercourse while a mother breastfeeds, frequent informal divorces, and a tendency toward polygamy were posited as factors that may encourage the spread of HIV within the community. Social and religious associations may provide an ideal vehicle for health education to prevent HIV/AIDS.

67. Sexual Behavior and Sexual Networking Among Married Men in Oyo State, Nigeria. Takemi LW. Boston: Program in International Health, Harvard School of Public Health; 2000. In this community-based study, baseline data were collected on the sexual practices of married men from rural and urban Oyo state, Nigeria. Sexually networking was present, and occurred with regular and nonregular partners. The paramount reason for such behavior was a lack of restraint on the man's part. This was aggravated by periods of traditional female sexual proscription especially during postpartum abstinence. The men were not always able to identify high-risk partners in terms of acquiring HIV/AIDS/STI. Though high-risk behavior was present in a large proportion of men, contacts with commercial sex worker was found to be low. Furthermore, the advantage of the condom as a barrier method in the control of STI was not well known. Consistent condom use was largely absent when with regular partners and very low when with nonregular partners. HIV rates were highest in the younger (<30 years) and older men (50 years and over) and HIV testing was not widely available. Young age and polygamy were consistently predictive of having multiple partners and associated with an increased risk for acquiring and spreading STIs, including HIV/AIDS. Perception of wealth and the value system are underlying factors associated with acquiring multiple partners. Men's sexual networking as shown in this study is likely to have a profound negative effect on the health of their female partners, especially those in polygamous relationships. Such activities facilitate the spread of HIV/AIDS and STIs and faithfulness to partners rather than multiple sexual contacts should be encouraged among the men. Reproductive health needs of the women who are steady girlfriends need to be met also. In this regard, the single women who are largely adolescents and young adults require reproduction health education. Men need to be counseled on correct and consistent use of condom. With the HIV/AIDS scourge, it is not just desirable but it becomes imperative that men be empowered to play a more active and responsible role in promoting the health and welfare of family members and in preventing disease.

68. Changes in attitude, sexual behaviour and the risk of HIV/AIDS transmission in southwest Nigeria. Olayinka BA, Osho AA. *East Afr Med J.* 1997;74(9):554–560. This pilot study was carried out in southwest Nigeria to determine the current trends in sexual behaviors known to be associated with HIV transmission in Nigeria. Knowledge of AIDS in general and as an incurable disease was high (91.4% and 79.4%, respectively). Knowledge of the means of AIDS transmission was also very high among both men and women. Overall, condom use was consistent at 25%, inconsistent at 55%, and nonexistent at 20% for all sexually active respondents. More than 60% of sexually active respondents had two or more sexual partners, with significantly more men than women having this number of sexual partners ($p < 0.01$). Eighteen percent of sexually active respondents had a history of sex with commercial sex workers while 25% had a history of at least one sexually transmitted disease. Using multiple logistic regression, the significant determinants of condom use among the sexually active group were: being in a stable sexual relationship, history of sex with commercial sex workers, self-perception of testing positive for HIV, and self-perception of HIV/AIDS risk in Nigeria. Prevalence of condom use in this study was much higher than those reported in previous studies, suggesting a probable decline in high risk sexual behaviors among inhabitants of urban Southwest Nigeria since the advent of AIDS. Most sexually active respondents aged 19 years or younger (adolescents) who perceived themselves at a high risk of testing positive for HIV had never used condoms. The nonusage of condoms among this group of adolescents is disturbing, because they are at greatest risk of spreading the disease. Health education and promotion of safe sex practices need to be extensively targeted at adolescents.

69. Sexual attitudes in traditional and modern Yoruba society. Demehin PAO. *Int Q Community Health Ed.* 1983–84;4(3). This article examines sexual attitudes and beliefs in Nigeria, from the traditional society to the modern one; focusing specifically on Yoruba culture, describing sexual attitudes and sex education in the traditional Yoruba society. and examining its evolution under the influence of the British Colonial rules. It concludes that the sexual attitude was much healthier and sexual life more disciplined in the traditional society before the colonizers broke down the community structure, causing children to turn against their parents. The children were presented a confused system of values, which combined sexual permissiveness with the idea of sin—confusion became more pronounced in the aftermath of the Civil War—with the young people unable to identify or understand either the old traditional or the new Western system of values. In conclusion, the paper examines the efforts made by the Nigerian government to introduce sex education in schools by encouraging the students to rediscover their own traditional values and place them in perspective in the modern context.

D2. Networking and Relationships

70. Premarital sexual activity in urban Nigeria. Feyisitan B, Pebley AR. *Studies Family Plann.* 1989;20(6):343–353. This study examines changes and differentials in premarital sexual activity in Nigerian cities. The incidence of sexual activity before marriage provides an indication of the extent of erosion in traditional practices and in family control of young women's behavior in urban areas. Pregnancy and childbirth outside of marriage and traditional family support systems have also become a matter of increasing concern in many African cities, especially in the public health community. The results suggest that premarital sexual behavior has become more common over time, as Nigerian society has undergone marked social change, and that premarital sexual behavior appears to be more common among women who come from nontraditional backgrounds. Relatively few premaritally sexually active women attempted to avoid pregnancy by using a contraceptive method, although premarital contraceptive use is more common in younger cohorts, and among more educated women. Much of the contraceptive use that occurs, however, is use of efficient methods.

71. Sexual networking in Ijebu-Ode, Nigeria: an exploratory study. Oyeneye OY, Kawonise S. *Health Transition Rev.* 1993;3(suppl):171. This paper describes an exploratory study to determine the degree of sexual networking in Ijebu-Ode. The data generated will be compared to a survey in Ekiti (Orubuloye, Caldwell and Caldwell, 1991) and provide the groundwork for later, more detailed studies. A major objective was to investigate whether sexual networking can be studied in this area. Results indicate that virginity at marriage is losing its importance and that most respondents engaged in multiple sexual relations for fun. Despite an awareness of STDs, extramarital sexual relationships, especially among men, are common. Most new of HIV/AIDS and its transmission, yet there was a general belief that it could be cured through orthodox medical treatment. The study highlights a gap in the effectiveness of the government nationwide campaign and the need for further work on sexual networking.

72. Changes in the nature and level of sexual networking in an African society: the destabilization of the traditional Yoruba system. Caldwell J, Orubuloye IO, Caldwell P *Health Transition Working Paper.* 1990;4. The Australian National University: National Centre for Epidemiology and Population Health. The study reports on adults in Ado-Ekiti and two surrounding villages. One-third of 100 urban women and one-fifth of 100 urban women were virgins at first marriage; those who had sex before marriage reported having more than one partner before finally marrying. Very few men claimed to be virgins before marriage. First sexual experiences among the 400 adults were said to have been when they were 17 years old. Most men and one-third of women reported having sexual relations outside their current marriage, and 37% of men and 15% of women reported having three or more current sex partners. A sexual postpartum abstinence period was still observed for 22–30 months, but monogamous men did have sexual relations outside marriage during this period. In rural areas more women in polygamous marriages had sex outside marriage than women in monogamous marriages. This may reflect a need for economic assistance by some women in polygamous relationships. Most female extramarital relationships are with other married men whom they have known and trust; most male extramarital relationships are with younger women whom they call "friends."

73. Sexual networking in the Ekiti district of Nigeria. Orubuloye IO, Caldwell JC, Caldwell P. *Stud Fam Plann.* 1991;22(2):61–73. The confirmation of a significant number of HIV-positive persons and some deaths due to AIDS in Nigeria has rendered more urgent the study of sexual networking, both for an understanding of the risk of HIV transmission and also that of sexually transmitted diseases, which may serve as a vehicle for HIV infection. This article reports on a research project that concentrated initially on developing both small-scale survey and anthropological methodology to a point where reliable information was obtained. The research was carried out in both urban and rural areas of Ekiti, Nigeria, a Yoruba district 150 miles northeast of Lagos. Findings are reported from both the survey of 200 men and 200 women and the supplementary specialized in-depth studies. A high level of premarital and extramarital sexual activity was shown to exist, with higher levels among men than women and in urban than rural areas. Most female extramarital relations in rural areas were occasioned by the need for material or economic assistance and were highest among the younger wives in polygamous marriages. Male extramarital relations were highest in monogamous marriages and were frequently explained by wives' periods of postpartum sexual abstinence. Polygymy and postpartum sexual abstinence were underlying social institutions that explained

much of the sexual networking. Reported levels of sexually transmitted disease were high, as were beliefs that these disease could be treated successfully by traditional healers.

74. Diffusion and focus in sexual networking; identifying partners and partners' partners. Orubuloye IO, Caldwell JC, Caldwell P. *Stud Family Plann.* 1992;23:343–351. This article describes the second stage of a research project on sexual networking that aims to further understanding of the spread of sexually transmitted diseases and HIV/AIDS in Ondo State, Nigeria. A sample of 488 men aged 15–50 were interviewed in depth to ascertain 1) the numbers and characteristics of their sexual partners, 2) the numbers and characteristics of the partners of those partners, and 3) the extent to which these relationships were commercial. In addition, a census was taken of all commercial sex establishments in order to estimate the numbers of their clients. The results show that male (and female) sexual networking is extensive, that in most nonmarital relationships men do not have accurate knowledge of their partners' partners, and that detailed questioning provides a reasonably accurate picture of the number of these relationships that are commercial in nature. The situation revealed was one of sexual diffusion rather than one with a strong focus on commercial sex workers, which fits the model of a slowly increasing HIV/AIDS epidemic rather than an explosive one.

75. Extramarital relations and perceptions of HIV/AIDS in Nigeria. Isiugo-Abanihe UC. *Health Transitions Rev.* 1994;4(2):111–125. Data from a 1991 survey of five Nigerian towns are used to examine currently married men's and women's perceptions of AIDS which, together with other socioeconomic factors, are then related to extramarital sexual behavior. An overwhelming majority of the respondents have accurate information about AIDS. In particular, most associate HIV/AIDS transmission with multiple sexual partners, though only one-third of them think that the fear of AIDS has limited casual sex in their communities. About 54% of men and 39% of women have had extramarital relations, with 18% of men and 11% of women having done so in the previous week. The incidence of extramarital relations varies considerably by respondents' level of education, type of marriage, religion, and spousal closeness. More importantly, knowledge of multiple sexual partners as a risk factor for HIV/AIDS is inversely related to extramarital affairs. The study underscores the link between knowledge and behavior, and calls for a well-articulated campaign designed to educate the populace about the threat of AIDS, with the aim of modifying both premarital and extramarital sexual behavior, thereby reducing the risk factor for HIV through heterosexual relations which is the main mode of transmission in Nigeria.

D3. Professional Groups

76. Christian religious leaders' Knowledge and state of preparedness for AIDS education in an urban area in Nigeria. Oladepo O, Usendiah JE, Ajuwon AJ. *Int Q Community Health Ed.* 1998–99;18(3):373–384. An exploratory survey assessed Christian religious leaders' knowledge, state of preparedness, and current level of involvement in AIDS education in Ibadan, Nigeria, with a view to providing baseline information upon which AIDS education programs can be developed for churches. A total of 306 Christian leaders, who were selected from half (78) of the churches in Ibadan through multistage sampling, were interviewed. In addition, the church records kept by the Christian leaders were reviewed to document AIDS educational activities carried out by the churches. Results showed that almost all (97.7%) of the Christian leaders have heard about AIDS, with the mass media being the primary source of information (78.3%). Despite a high level of awareness, only 6% of the Christian leaders correctly identified HIV as the causative agent of AIDS. Knowledge regarding unprotected sexual intercourse with multiple partners as a way by which the virus is transmitted was high (88.3%). Only 37.8% of the leaders had ever carried out any AIDS educational activity in their respective churches, while the majority (62.2%) had not. The preaching of sermons (38.9%), presentation of seminar papers at workshops (21.2%), and counseling (15.8%) were the main educational programs carried out by the Christian leaders. Of those who have heard about AIDS but had not educated their congregation, a lack of basic knowledge on the disease was cited as the principal barrier (27%) to action. However, a majority (79.4%) are favorably disposed toward playing a proactive role in AIDS educational programs in Nigeria. The implications of these findings for AIDS control efforts are discussed.

77. Post primary school teachers' view point on reproductive health and contraceptive practice among schoolgirls in Port Harcourt, Nigeria. Briggs LA. *J R Soc Health*. 1994;114(5):235–239. In many developing countries, teachers are role models to whom many adolescents turn with questions on sex and sexuality.

The author examined the attitude of a large sample of secondary school teachers in Port Harcourt, Nigeria, on the contraceptive practice of sexually active schoolgirls and their general opinion about teen pregnancy. Pregnancy is common among schoolgirls in Nigeria, but most do not carry their pregnancies to term for fear of ending their education and being socially stigmatized for having a child out of wedlock. Two hundred forty secondary school teachers aged 18–50 years of mean age 33.8 from three girls and nine coeducational schools responded to interview questionnaires during March 1992. Findings based on responses from these 240 individuals comprise 97.6% of the 246 potential respondents who were selected. A majority of the teachers had the National Certificate of Education (52.9%), while 37.5% had a university degree; 52.9% would encourage sexually active adolescents to use contraception, but 45.8% would not. Of those teachers who would discourage condom use, 24.5% would do so on the basis of their belief that contraceptives damage reproductive organs, while 20.9% think that such advocacy will encourage premarital sex. To avoid teen pregnancy, 33.8% of teachers believe that schoolgirls should abstain from sex until they are married and 20.8% would advise the use of contraceptives; and 48.3% advocate a school-based sex education program to prevent unwanted pregnancy.

78. Secondary school teachers' viewpoint on sex education. Oladepo O, Akintayo T. *J R Soc Health.* 1991;111(6):216–220. The success of any sexuality education programme in the school is directly related to the expertise of teachers and their willingness to provide instructions. This study assesses the knowledge of human sexuality education among 351 secondary school teachers in Ibadan, Nigeria, and their attitude toward inclusion of sex education in the schools' curriculum. Results revealed that none of the respondents was able to define sex education adequately and 34.8% could not identify content areas of sex education for inclusion in the schools' curriculum. Surprisingly, married female teachers and those aged 40 years and above were less favorably disposed to the introduction of sex education in schools.

79. Knowledge, attitude and practice towards AIDS among civil servants in Nigeria. Okojie OH, Ogbeide O, Nwulia A. *J R Soc Health* 1995;115(1):19–22. A study about knowledge, attitude and practice toward AIDS was carried out among 340 randomly selected workers in Benin City in Nigeria using self-administered questionnaires. Three hundred thirty (97.1%) of the workers were aware of the existence of AIDS but only 50 (14.7%) had the correct knowledge of the etiology of AIDS, and of these, 29 (8.5%) had tertiary education. Generally, there was a good knowledge of the different routes of transmission except for the erroneous belief by a high number, 125 (36.8%) and 129 (37.9%) that it could be transmitted through sharing of utensils and causal kissing, respectively. The attitude toward AIDS sufferers is poor and 156 (45.9%) actually think they should be ostracized. Twenty-one (6.2%) of the respondents still keep multiple sexual partners, while 142 (41.8%) would willingly use the condom for safer sex. There is therefore the need for an intensive and effective health education campaign to combat this deadly disease in the country.

D4. Health Workers and Services

80. AIDS and infection control: experiences, attitudes, knowledge and perception of occupational hazards among Nigerian dentists. Sote EO. *Afr Dent J.* 1992;6:1–7. A questionnaire survey of 79 Nigerian dentists aged 21–60 years was carried out to evaluate their experiences, attitudes, knowledge, and infection control practices in relation to HIV infection. Their perceptions of various occupational hazards were also probed. Of these, 84.4% held the view that HIV-infected/AIDS patients should be treated in special treatment clinics. The risk of becoming infected was the paramount fear expressed by 88.6% of the dentists. This fear can be explained by the inadequate facilities in various dental clinics reported by 79.7% of them. Despite their lack of clinical experience in the management of oral manifestations of AIDS, a large proportion of them were quite knowledgeable. However, HIV infection was perceived with the highest degree of concern as the greatest occupational hazard by 87.2% of the dentists. Interdisciplinary collaboration among health professionals should be intensified to enhance prompt referral and comprehensive treatment of AIDS patients.

81. AIDS: awareness and blood handling practices of health care workers in Lagos, Nigeria. Odujinrin OM, Adegoke OA. *Eur J Epidemiol.* 1995;11(4):425–430. A questionnaire survey of 260 health care workers from 13 randomly selected health care facilities was undertaken. Their knowledge, attitude, belief, and blood handling practices regarding HIV/AIDS were inquired about. Virtually all (99.0%) respondents had heard about AIDS but only 57.0% had seen an AIDS patient before. Although 83.0% knew that AIDS is caused by a virus, a high proportion still confuses mode of transmission with causative agent. Deficient

knowledge was exhibited when asked about groups of people who were at a higher risk of contracting HIV and AIDS: Only 54.6% and 51.5% identified homosexuals and intravenous drug users as being at a higher risk. Almost all (97.0%) respondents claimed to have been more careful in their blood handling practices since the emergence of AIDS; 68.5% wore gloves for all procedures involving handling of blood and 28.5% sometimes although as many as 30.4%, 40.4%, and 18.1% do not wear gloves for cleaning up blood-stained materials, nursing procedures, and taking obstetric delivery, respectively. It was evident from their responses that not all the health workers knew the correct method for disposing of used blood-stained instruments and leftover blood samples and neither were they all adhering to the safety guidelines recommended for handling these materials. Education of all health care workers in Nigeria on the Universal Precautions Guidelines issued by the Centers for Disease Control and Prevention in 1987 regarding blood, body fluids, and precautions for handling contaminated instruments is urgently recommended.

82. Knowledge Perception and Attitude off Health Workers Towards AIDS and Management of AIDS Patients in Metropolis, Sokoto State Nigeria. Nasiru S. (An MPH dissertation in the department of Health Promotion and Education, College of Medicine, University of Ibadan; 1995.) (See also Nasiru S, Olaseha IO, Adeniyi JD, Ajuwon AJ. Knowledge and attitude of physicians and nurses about AIDS in Sokoto, Nigeria. *Int J Health Ed.* 1998;36(1):26–28.) In order to carry out the onerous task of health educating people about HIV/AIDS, the standpoint of health workers about AIDS needs to be ascertained, because they are best suited for the task. This study was conducted with the aim of assessing the level of knowledge, perception, and attitudes of health workers toward AIDS patients in Sokoto metropolis. A combination of proportional stratified and systematic random sampling techniques were used to select 425 respondents from all the health institutions within the metropolis. The result showed varying degree of knowledge on different aspects of AIDS among the respondents. For example, only 172 (46%) could mention the causation of AIDS, 209 (56.%) listed three modes of HIV transmission—sexual intercourse, blood transfusion, and transplacental transfer. With respect to knowledge on the mode of transmission, 31.5% of respondents incorrectly implicated kissing, handshaking, and mosquito bite as mode of HIV transmission. This clearly show that some health workers have inadequate knowledge about AIDS. Concerning the fatality of the disease, 336 (91.5%) believed the disease could kill. However, only 209 (56.8%) believed they could be killed by the disease. Furthermore, the study revealed a lukewarm attitude toward the management of AIDS patients among the respondents. For instance, 27 (7.%) respondents admitted to have treated AIDS patients. Of these, only 14 (51.9%) would like to continue caring for AIDS patients. Of the 306 respondents who have never treated an AIDS patient, only 102 (33.3%) would like to care for them. Based on these findings, it is suggested as a matter of urgency that health workers be educated through workshops and seminars on AIDS in order to improve their knowledge, and to change their attitude and their perception about AIDS, thus transforming health workers as effective change agents with he ability and skill required for better management of AIDS patients.

83. Assessment of health services for treatment of sexually transmitted infections among Nigerian adolescents. Okonofua FE, Ogonor JI, Omorodion FI, Temin MT, Coplan PA, Kaufman JA, Heggenhougen HK. *Sex Transm Dis.* 1999;26(3):184–190. The available evidence indicates that Nigerian adolescents use various health practitioners for the treatment of STDs. However, the quality of STD treatment used by adolescents has not been investigated previously. The goal of the study was to investigate the quality of services provided by health practitioners for the treatment and prevention of STDs among adolescents in Benin City, Nigeria. In-depth interviews were conducted with 48 formal and informal sector health practitioners who were identified by key informants as being the main providers of STD treatment in the city. Their facilities were visited to evaluate the quality of services they provide for STD treatment. Health providers in the informal sector showed inadequate knowledge of the appropriate treatment methods for STDs. Although providers in the formal sector had better knowledge, they lacked appropriate management guidelines and were poorly oriented to the problems of STDs in adolescents. There was consensus among the health providers that adolescents most frequently use informal treatment for STDs. Nevertheless, among all providers, there was evidence of inadequate counseling of adolescents, a poor attitude toward the promotion of condom use, and inadequate use of referral opportunities. Comprehensive public health measures are needed to address these problems in Nigeria. These include the provision of reproductive health education for adolescents, the retraining of health providers, and the consolidation of services for the prevention and treatment of STDs.

84. Knowledge, perception and practice with regards to occupational risks of HIV/AIDS among nursing and midwifery students in Ibadan, Nigeria. Atulomah NO, Oladepo O. *Afr J Med Med Sci.* (in press). Nursing and midwifery students constitute a subgroup of health care providers exposed to occupational risk of HIV infection because of direct contact with blood and body fluids during clinical practice. The occupational risk faced by these students is of serious concern given their limited experience and proficiency in nursing care skills. This study was carried out to provide important baseline data about knowledge, perceptions, and practices with regards to occupational risks of HIV/AIDS among 359 nursing and 120 midwifery students in Ibadan, Nigeria. The study utilized both qualitative and quantitative methods to gather information from nursing and midwifery students. The result showed a poor knowledge of WHO-recommended universal precaution for preventing HIV transmission among students in all the schools. Students of the schools of midwifery performed more high-risk occupational practices compared to those in the nursing schools, but received less supervision.

85. International comparison of medical students' perceptions of HIV infection and AIDS. Najem GR, Okuzu EI. *J Natl Med Assoc.* 1998;90(12):765–774. This analysis compared medical students' perceptions of HIV infection and AIDS in two cities in two countries with different cultural and educational backgrounds. A total of 292 first- and second-year medical students (45% sample) were surveyed from New Jersey Medical School and from Benin Medical School, Nigeria. Compared with the Benin students, the Newark medical students were significantly more knowledgeable and had more positive attitudes and behaviors regarding HIV infection and AIDS. Misperceptions regarding certain modes of transmission of HIV were significantly higher among the Benin students than the Newark students. Compared with the Benin students, the Newark students had more frequent sexual intercourse and used condoms more frequently, but the Benin students had more sex partners. Perception of personal risk and concern of contracting AIDS was significantly higher among the Newark students than the Benin students. These results indicate that it is important that medical educators in medical schools convey accurate information to improve medical students' perception regarding HIV infection and AIDS.

86. Knowledge, Attitude and Practice of Nurses on the Use of Universal Precautions against HIV Transmission within Hospitals in Makurdi, Benue State, Nigeria. Bosa CJ. An MPH dissertation in the Department of Health Promotion and Education, College of Medicine, University of Ibadan; 2002. Although HIV is transmitted primary through sexual intercourse, blood is the single most important route of potential HIV transmission in health care settings, and a route that can be blocked largely by technological means provided in the universal infection control precautions (UICP) developed by WHO in 1988. With the increase of AIDS cases in Benue State hospitals, it has become especially important for nurses there to comply with UICP. Nine of 12 hospitals in Makurdi were randomly selected for the study, and 116 out of 180 nurses working in high-risk wards responded to a questionnaire. A checklist of UICP equipment and materials was also utilized. The checklist revealed that seven hospitals used disposable needles and syringes exclusively, seven used disposable suction equipment for newborns, five had a functioning autoclave, and two had machines for screening blood, but only one was functional. A 24-point knowledge scale was constructed for nurses on HIV and UICP. The actual range obtained was 1–15 with a mean of 9. No significant differences in knowledge were found according to nurses' gender, years of experience, or professional qualifications. Attitudes toward UICP were measured with a 11-item attitude scale that was constructed with likert-type 5-point ratings for each item. A highly positive mean attitude score of 43.5 points was attained. Again, no differences were found according to the demographic items mentioned previously. In conclusion, while nurses are favorably disposed toward UICP, they lack the knowledge and logistical support to put this into practice.

D5. AIDS in the Media

87. AIDS in the African Press. Lear D. *Int Q Community Health Ed*. 1989–1990;10(3). Newspapers have the potential to take a leading role in AIDS education in Africa. With their relatively small circulation, they mainly reach educated urban citizens, a population particularly hard hit by the epidemic. This study reports findings of a content analysis of AIDS coverage of government owned newspapers in Senegal, Togo, Nigeria, Uganda, and Kenya. Although most papers have printed educational articles, they have undertaken only a very minor role in any national effort. Coverage has tended to reflect government reaction, usually moving through stages of denial, scapegoating, and blame before responding constructively to the epidemic. African countries surveyed are still largely engaged in epidemiological response to the epi-

demic; widespread education has not yet occurred. Newspapers have not yet fulfilled their potential as educational media.

88. Condom use and the popular press in Nigeria. Renne EP. *Health Transitions Rev.* 1993;3(1):41–56. The increased acceptability and use of condoms by men in southwestern Nigeria is reflected in joking references to condoms in the comic-style popular press. Yet these references display an ambivalence about condoms that is mirrored in survey data and in interviews regarding condom use by rural Ekiti Yoruba men. This ambivalence, which is often couched in terms of health, has implications for the acceptance of government-sponsored HIV/AIDS-related educational programs. Because of the irreverence of comic-style newspapers and the "unofficial" nature of their authority, which coincides with popular attitudes about health programs, they have a credibility that could be useful in educating adolescents about sexually-transmitted diseases and HIV/AIDS.

D6. Parents and Communication with Children

89. Dissemination of family life education to adolescents by their parents in suburban Ibadan, Nigeria. Adeyemo MOA, Brieger WR. *Int Q Community Health Ed.* 1994–95;15(3):241–252. Family life education (FLE) is a process of imparting both factual knowledge about human development, sexual relationships, preparation for parenthood, pregnancy, contraception and sexually transmitted diseases, and also values, attitudes, and perceptions that will enhance health self-concepts and relationships. Although experts agree that the home is the best place to begin FLE, parents themselves are sometimes reluctant as discussion of these topics may be embarrassing or even taboo between generations. Parents also express concern that they may not be knowledgeable enough to handle FLE. The inhibitions on FLE in the home may be exacerbated by urbanization that reduces traditional social support systems. With this background, the investigators examined the nature and level of family life communication between parents and their adolescent children in homes in the suburban community of Apata in Ibadan, Nigeria. Of six FLE topics, the 253 families interviewed discussed only an average of three. Some parents did not feel competent and others felt that raising such issues might encourage undesirable behavior by the youth. Mothers were found to be the major initiators of FLE. A 12-point communication score was constructed based on potential FLE topics that could be discussed at home. The level of FLE communication was found to increase with parents' level of education. Greater time at home by parents was also associated with better scores. A positive perception of a parental role in FLE was reflected in higher scores. Strategies to increase parents' knowledge on FLE topics as well as their self-efficacy in providing FLE is suggested with special focus on the facilitating potential of schools and women's groups in the community.

90. Parents' viewpoint on reproductive health and contraceptive practice among sexually active adolescents in the Port Harcourt local government area of Rivers State, Nigeria. Briggs LA. *J Adv Nurs.* 1998;27(2):261–266. The viewpoint of parents on reproductive health, specifically their attitude toward contraceptive use among sexually active adolescent daughters and general opinion on adolescent pregnancy, was examined. A sample survey of parents of pregnant adolescents in Port Harcourt was conducted. A greater proportion (79.1%) of parents did not favor the use of contraceptives by sexually active adolescents because according to their parents, contraception kills. Also, most (87.8%) parents did not usually discuss sexual matters with their adolescent girls. However, the majority (93.2%) of parents would want a sex education programme in schools in order to prevent unwanted pregnancy.

91. Factors Associated with Poor Father-Adolescent Sexuality Communication in Iseyin Local Government Area. Agbefo OS. An MPH dissertation in the Department of Health Promotion and Education, College of Medicine, University of Ibadan; 2002. Sexuality communications are verbal exchanges of information about life goals, personal grooming, growth and development, social and sexual relationships, and marriage. The cross-sectional study was carried out in four randomly selected cluster communities in Iseyin local government area of Oyo State. Interviews wee held with 250 fathers and their daughters (135) and sons (115). All fathers had discussed at least one of five major sexuality issues. On a 5-point scale reflecting frequency of discussion, fathers scored 3.8 on life goals and 3.5 on personal grooming on average. The adolescents rated communications with their fathers on these two subjects at 3.3 and 3.8, respectively. Fathers' mean scores were lowest for growth and development (0.5) and sexual relationships (1.4). Adolescents rates these items at 1.5 and 1.1, respectively. Fathers' major reasons for not discussing some of the sexuality items with their adolescent sons were that the child was not old enough (56.1%) and with

their daughters, that it was better for mothers to discuss such issues (44%). Among the adolescents, 40% of boys and 30% of girls gave being underage as a reason for not discussing with their fathers, whereas 21% of boys and 23% of girls said there were secrets that should not be discussed with fathers. Contraception topped the list of issues fathers would not discuss with their male (85%) and female (90%) children. Many fathers (47%) would not discuss menstruation with their daughters. A greater proportion of fathers felt comfortable discussing sexuality issues with their sons (83%) than with their daughters (3%). A nearly similar proportion of sons felt most comfortable discussing sexuality with friends (32%), fathers (30%), and mothers (30%). Among daughters, most preferred discussing with their mothers (67%), followed by friends (24%) and fathers (2%). In conclusion, the findings show clear gender preferences in communication about sexuality among adolescents and parents. There was also some observed congruity in reports of frequency of issues discussed between fathers and their adolescents.

D7. Gender Issues

92. Gender in adolescent reproductive health—women to the fore. Familusi A. *Choices.* 1999;1(3):16. In Nigeria, gender issues are increasingly dogged by controversy regarding who should play what role in assuring better reproductive health for future generations of the population. The authors present a critical evaluation of the effect of enduring negative, sociocultural beliefs and practices on the reproductive health of adolescent boys and girls, and posit that women (i.e., mothers) should take more blame than men. Most men believe that it is a woman's natural responsibility to guide and counsel their children on sexual activity. Therefore, they adopt a sit-and-watch attitude only to come out snorting and cursing when things go wrong in the lives of these children. The preference for male children is another area of contention in which sociocultural beliefs have laid a foundation for gender inequality. In addition, religion has a big influence on family life and reproductive health and rights in Nigerian society. Within this context, there tends to be a dominant belief that women should play a subservient role to men in the family. Given the vulnerability of adolescent women, efforts should be made to protect them from harmful traditional practices, and provide reproductive health education for children and adolescents. Further, it should be emphasized that when considering adolescent sexuality and reproductive health problems, women occupy a central position and must play a vital role. Finally, every step toward attaining gender equity should be seen as everybody's investment; a collaboration and partnership rather than competition.

93. Perceived male sexual needs and male sexual behaviour in southwest Nigeria. Orubuloye IO, Caldwell JC, Caldwell P. *Soc Sci Med.* 1997;44(8):1195–1207. Part of a research programme studying methods of combating the AIDS epidemic was a survey and accompanying qualitative research focused on attitudes toward male sexuality and male sexual behavior outside marriage and the extent and success of women's attempts to control it. A survey of 1749 men and 1976 women was conducted in urban and rural populations in three states of southwest Nigeria. The majority of the community believes that men are by nature sexually polygynous, although about half the community believes that male sexuality can and should be confined to marriage. These beliefs arise out of the nature of the traditional society and are being changed by new ways of life, education and imported religions. Nevertheless, sufficiently rapid change is unlikely, even if promoted by government, to successfully combat a major AIDS epidemic, and the major strategy should attempt to reduce the rate of transmission, especially in high-risk relationships.

94. Women's role in reproductive health decision making and vulnerability to STDs and HIV/AIDS in Ekiti, Nigeria. Orubuloye IO, Oguntimehin F, Sadiq T. *Health Transitions Rev.* 1997;7(suppl):329–336. An exploratory study of women's role in reproductive decision making in Ekiti shows that women in the state are increasingly taking active decisions on matters affecting their daily lives. More women than ever before believed that they could take decisions on family size, when to have a baby, and choice of spacing. The cultural barrier against short postpartum abstinence appears to have diminished and sex during lactation was not considered a major cultural and religious taboo. Knowledge of contraception has become universal in recent years, and the majority of women take decisions on the method and timing of family planning. All women who used family planning methods considered their decision to be very important. The ability of women to take decisions on these issues may not only enhance their bargaining power but also reduce their vulnerability to STDs, including AIDS, from diseased or high-risk partners.

95. Women and the risk of HIV infection in Nigeria: implications for control programs. Ajuwon AJ, Shokunbi W. *Int Q Community Health Ed.* 1996–97;10(3). AIDS is a growing public health problem in Nigeria.

Since 1984, when AIDS was officially reported in the country, the number of persons infected with HIV and those with AIDS has continued to increase rapidly. This trend is likely to persist in the coming years because despite a high level of public awareness about AIDS, many Nigerians continue to engage in behaviors such as unprotected sexual networking, which raises their risk of exposure to HIV. Women in Nigeria are particularly susceptible to HIV infection and its consequences because existing sexual norms place them at a disadvantage in that they are unable to control the sexually risky behaviors of their spouses or take action that would limit their risk of exposure. The current economic crisis in Nigeria has also caused many women to go into full-time commercial sex work or to enter other occupations in which they are predisposed to being lured or forced to having sexually risky relationships with men. Unfortunately, the current AIDS control intervention in Nigeria does not address these issues. This article draws attention to the biological, cultural, and economic conditions that make women in Nigeria susceptible to HIV infection and recommends how to overcome them.

96. African women's control over their sexuality in an era of AIDS. A study of the Yoruba of Nigeria. Orubuloye IO, Caldwell JC, Caldwell P. *Soc Sci Med.* 1993;37(7):859–872. Very limited knowledge is available about African women's control over their sexual relations with husbands or other stable partners in situations in which high risk of STDs and HIV/AIDS exist. Such control must be seen as encompassing women's control over their sexuality and reproduction as well as the broader areas over which they can make decisions. The paper examines other research findings in sub-Saharan Africa, and then reports a study carried out by survey and anthropological methodologies among the Yoruba people in Ado-Ekiti, a town in southwestern Nigeria. Because the AIDS epidemic is still at an early stage in Nigeria and because of the relation of STD infection to HIV transmission, as well as the probability that the behavior developed for limiting STD transmission will subsequently be employed to limit HIV transmission, the study focused on STDs. Yoruba women have a considerable ability to refuse sexual relations for a limited time, and they are placed at greater risk of STD infection because they do not know whether their partner is infected rather than by a lack of ability to control the situation when STDs have been identified. This ability may be more limited with AIDS because of its longer duration.

97. Attitude of Abeokuta pregnant women to routine human immunodeficiency virus screening. Orji EO, Sotiloye D, Fawole AO, Huyinbo KI. *Niger J Med.* 2001;10(4):173–176. The attitudes of 200 pregnant women at the antenatal clinic, Federal Medical Centre, Abeokuta to routine HIV Screening for pregnant women were obtained between January and February 2000. One hundred ninety-six women (96%) supported routine screening, whereas 8 (4%) did not. Reasons for supporting routine screening included protection of an unborn baby (70%), initiation of early treatment if they test positive for HIV (50%), protection of other patients (40%), and protection of health care workers (20%). Reasons given by 8 (4%) women who opposed routine screening included fear of a positive result 6 (3%) and fear of societal discrimination 2 (1%). If a woman tested positive, 60% said they would request medical treatment, 50% said they would inform their husband, 40% would seek divine intervention in church, 20% did not know what they would do, and 10% believed they would be isolated until death. The ethical, legal, emotional, and societal implication of routine screening were discussed and recommendations were made based on available scientific evidence.

D8. Indigenous Practices

98. Indigenous surgical practices in rural southwestern Nigeria: implications for disease prevention. Ajuwon AJ; Brieger WR; Oladepo O; Adeniyi JD. *Health Ed Res*. 1995;10(3):379–384. HIV can be transmitted through contact with contaminated blood and blood products. Efforts are therefore under way in Nigeria's formal health sector to protect blood supplies and improve the safety of health worker practices, but little attention has been paid to the indigenous health care network, where a majority of people seek help. Indigenous surgical practices of concern include circumcision, medicinal blood letting, and scarification or tattooing. A qualitative, community-based study was conducted in the rural community of Ago Are, in southwestern Nigeria, to learn about such indigenous surgical practices and their potential for disease transmission. Community leaders helped identify two types of indigenous practitioners whose work involves blood contact, *olola* and *onisegun*. *Olola* are surgeons who specialize in circumcision and make traditional facial markings, while *onisegun* make incisions into which medicinal herbs are rubbed. Observation of the practitioners found that the *olola* used the same knife for all operations and cleaned it simply by rinsing it in a bowl of water. Although the *onisegun* used a clean blade for his procedures, he

rubbed the herbs into the cuts with his bare hands. The potential for HIV transmission between practitioner and clients and among clients during these procedures is discussed, as is the potential for health education to reduce the demand for female circumcision and training indigenous healers in hygienic methods.

99. Female genital cutting in southern urban and peri-urban Nigeria: self-reported validity, social determinants and secular decline. Snow RC, Slanger TE, Okonofua FE, Oronsaye F, Wacker J. *Trop Med Int Health.* 2002;7(1):91–100. Despite growing public resistance to the practice of female genital cutting (FGC), documentation of its prevalence, social correlates or trends in practice are extremely limited, and most available data are based on self-reporting. In three antenatal and three family planning clinics in southwest Nigeria the authors studied the prevalence, social determinants, and validity of self-reporting for FGC among 1709 women. Women were interviewed on social and demographic history, and whether or not they had undergone FGC. Interviews were followed by clinical examination to affirm the occurrence and extent of circumcision. In total, 45.9% had undergone some form of cutting. Based on World Health Organization classifications by type, 32.6% had type I cuts, 11.5% type II, and 1.9% had type III or type IV cuts. Self-reported FGC status was valid in 79% of women; 14% were unsure of their status, and 7% reported their status incorrectly. Women are more likely to be unsure of their status if they had not been cut, or if they had come from social groups with a lower prevalence of cutting. Ethnicity was the most significant social predictor of FGC, followed by age, religious affiliation, and education. Prevalence of FGC was highest among the Bini and Urhobo, among those with the least education, and particularly high among adherents to the Pentecostal faith; this was independent of related social factors. There is evidence of a steady and steep secular decline in the prevalence of FGC in this region over the past 25 years, with age-specific prevalence rates of 75.4% among women aged 45–49 years, 48.6% among those age 30–34, and 14.5% among girls aged 15–19. Despite wide disparities in FGC prevalence across ethnic, religious, and educational groups, the secular decline is evident among all social subgroups.

100. Female circumcision and determinants in southern Nigeria. Ehigiegba AE, Selo-Ojeme DO, Omorogbe FI. *East Afr Med J.* 1998;75(6):374–376. One hundred ninety-two postnatal women and 95 newly born baby girls were prospectively investigated at the six-weeks postnatal visit to the department of obstetrics and gynaecology of the University of Benin Teaching Hospital, Benin City, Nigeria between January 1, 1996 and April 30, 1996. Circumcision was clinically verified in 65% of mothers and in 38% of the baby girls. The decision to circumcise the babies was taken in more than 90% of cases by husbands even though this was opposed by wives in 19% of cases. Significantly more circumcised than uncircumcised baby girls had circumcised mothers ($P < 0.01$) and maternal low educational status was significantly related ($P < 0.01$) to the tendency to circumcise the babies. There was lack of antenatal counseling of most mothers. It is concluded that although the incidence of female circumcision may be declining, attention needs to be focused on proper community enlightenment as well as the role of fathers in the decision to circumcise daughters.

101. Male and female circumcision in Africa from a regional to a specific Nigerian examination. Caldwell JC, Orubuloye IO, Caldwell P. *Soc Sci Med.* 1997;44(8):1181–1193. There is a strong relationship between male and female circumcision in traditional thought and, north of the equator, in their practice by ethnic groups. The Southwest Nigeria Study, a 1994–95 survey of 1749 men and 1976 women in Nigeri's Ondo, Oyo, and Lagos States, is used to examine contemporary levels of circumcision, reasons for carrying out the practice, and the circumstances of the circumcision operations. These findings are compared with earlier southwest Nigerian and West African studies. The persistence of the practices is confirmed, but rapid change toward their medicalization is also established. Possible links with AIDS are discussed.

D9. Living with AIDS

102. Acceptance and stigmatization of PLWA in Nigeria. Alubo O, Zwandor A, Jolayemi T, Omudu E. *AIDS Care.* 2002;14(1):117–126. There is now an acknowledged burden of AIDS and the HIV in Nigeria. In treatment centers, AIDS-related disorders account for up to 40% of admissions, while many communities have recorded regular losses within the last five years. In December 1999, the federal government announced that 2.9 million people (or 5.4% of the Nigerian population) were already infected by HIV. An important aspect of HIV/AIDS programs is the care of persons living with AIDS (PLWA), both in curative centers and in communities. Based on operations research of an STD/AIDS management project, this paper examines acceptance of people living with AIDS in communities in Southern Benue State, an area of high prevalence. Interviews with the people, their family members, and others in the communities found

a high level of stigmatization and low acceptance of people living with AIDS. These reactions stem mainly from the fear of contracting "the disease that has no cure," which is believed to be transmittable through any form of physical contact. Based on beliefs, which are further reinforced by the local terms for AIDS, some suggested that persons living with AIDS be eliminated before they infect others. These findings suggest that the challenges of AIDS control programs include coming to terms with the epidemic and fostering more acceptance of people living with AIDS, and above all, changing the current perception of HIV/AIDS from a personal to public health problem. The challenges are daunting but urgent, particularly because Nigeria's HIV/AIDS epidemic is reaching an explosion phase and more care will be provided at home.

103. Socio-economic implications of the management of HIV positive pregnant women—a review of four cases in Ile-Ife, Nigeria. Owolabi AT, Owolabi SP. *Niger J Med.* 2001;10(4):169–172. AIDS constitutes a major public health problem in developed and developing countries. The experience at Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC), Ile-Ife, Nigeria has shown that HIV/AIDS is not uncommon. Screening of pregnant women with symptoms and signs suggestive of HIV/AIDS revealed five cases in three years (1996–1998). Four of these cases were reviewed to highlight the socioeconomic implications and the burden of the disease on maternal and child health in our environment. It was shown that the socioeconomic status of the women could not support adequate management of their conditions, resulting in poor outcomes; namely abortion, increased risk of infection to a baby, and debts from hospital bills, among others. Improvement in the socioeconomic conditions of the populace and community health education on HIV/AIDS will enhance the outcome of management in pregnancy. In addition to emphasizing preventive measures, research into appropriate mode of management of HIV/AIDS in pregnancy is urgently needed in our environment.

104. Caring for people with AIDS in a Nigerian teaching hospital: staff attitudes and knowledge. Adelekan ML, Jolayemi SO, Ndom RJ, Adegboye J, Babatunde S, Tunde-Ayimode M, Yusuff O, Makanjuola AB. *AIDS Care.* 1995;7(suppl 1):S63–S72. Health workers play a pivotal role in preventative programs being implemented to combat the steady increase in the prevalence of HIV infection and AIDS in Nigeria. The authors report a questionnaire survey conducted in October 1993 among 111 doctors, 92 nurses, and 53 non-health workers at the University of Ilorin Teaching Hospital, Ilorin, Nigeria. The aim was to assess their knowledge of AIDS (for all groups) and the attitude of the health workers only toward the care of patients with AIDS. Although important gaps in knowledge were found in all groups, doctors performed significantly better than non-health workers on 22 out of 23 knowledge items, and more than nurses on 8 of the items. Nurses scored significantly higher than non-health workers on 18 of the knowledge items and more than doctors on one knowledge item. About one in three nurses would hesitate to nurse a person with AIDS, while half would not participate in birth delivery. Also, about a quarter of doctors would hesitate to treat a person with AIDS, while one in three would not carry out surgery despite adequate precautions. The findings compare favorably with those reported from other countries. However, they still indicate the need for a comprehensive AIDS education package to improve the knowledge base and allay fears for all groups and to prepare health workers for the important task of caring for persons with AIDS.

II. INTERVENTION STUDIES

105. A school-based AIDS education programme for secondary school students in Nigeria: a review of effectiveness. Fawole IO, Asuzu MC, Oduntan SO, Brieger WR *Health Ed Res.* 1999 Oct;14(5):675–683. Nigerian secondary school students are becoming sexually active at an increasing earlier age. Sexually active students are at risk of contacting STDs, including HIV infection. As a result, health education initiatives to increase level of knowledge, influence attitudes, and encourage safe sexual practices are being implemented in schools, but the effectiveness of these programs have not been evaluated. In this study, the knowledge, attitude, and sexual risk behaviors of 223 students who received a comprehensive health education intervention were compared with 217 controls. At post-test, intervention students exhibited greater knowledge about HIV/AIDS transmission and prevention ($P < 0.05$). Intervention students were less likely to feel that AIDS is a white man's disease and were more likely to be tolerant of people living with the disease ($P < 0.05$). After the intervention, the mean number of reported sexual partners among the experimental students significantly decreased from 1.51 to 1.06, while it increased from 1.3 to 1.39 among the controls. Among the intervention students there was also an increase in consistent use of the condom and the use of the condom at last sexual intercourse. The authors conclude that students can benefit from spe-

cific education programs that transmit important information necessary to prevent risky behavior, and improve their knowledge and attitudes on HIV/AIDS.

106. West African youth initiative: outcome of a reproductive health education program. Brieger WR, Delano GE, Lane CG, Oladepo O, Oyediran KA. *J Adolesc Health.* 2001 Dec;29(6):436–446. The purpose of the study was to describe the implementation and evaluation of an adolescent reproductive health peer education program in West Africa. The program, known as the West African Youth Initiative (WAYI), was developed to improve knowledge of sexuality and reproductive health, and promote safer sex behaviors and contraceptive use among sexually active adolescents in Nigeria and Ghana. Between November 1994 and April 1997, two organizations, the Association for Reproductive and Family Health (ARFH), based in Nigeria, and Advocates for Youth, based in Washington, D.C., supported community-based youth-serving organizations in the two countries to implement peer education projects. Consultants from the African Regional Health Education Centre (ARHEC) in Nigeria provided technical assistance in designing and conducting a quasi-experimental process and outcome evaluation of the projects. There were significant differences over time and between intervention and control groups on reproductive health knowledge, use of contraceptives in the previous three months, willingness to buy contraceptives, and self-efficacy in contraceptive use. Overall, the project provides evidence that peer education is most effective at improving knowledge and promoting attitudinal and behavior change among young people in school settings.

107. Impact of peer education on the reproductive health of in- and out-of school youth in Ibadan: evaluation findings: 1995-1997. Oyediran KA ; Ishola G ; Adedimeji A. Ibadan, Nigeria: Association for Reproductive and Family Health, 1998(3). (ARFH Monograph Series 4). This study evaluated the Reproductive Health Needs Project, implemented in Yoruba city, Oyo state, Nigeria. The project aims to address the expressed needs of the community and provide peer education and services on family life education and reproductive health. Youth Friendly and Satellite Clinics were established for in-school and out-of-school youths. The schools had a prior history of reproductive health problems, unsafe abortion, and unintended pregnancy. Out-of-school youths were serving as apprentices in varied trades. Data were obtained from a baseline survey conducted during August–October 1995 among 1297 adolescents. The post-intervention survey was conducted in June 1997 among 1273 adolescents. Peer educators were trained in January 1996. The project successfully affected the target population, especially in-school youths. Knowledge increased among in- and out-of-school youths on basic reproductive biology, contraception, and sexually transmitted diseases, including HIV/AIDS. Intensive radio outreach and sensitivity seminars were effective in changing attitudes on sexuality and reproductive health. Behavior change was not evident. Awareness of in-school peer educators was higher than in the community with out-of-school peer promoters. The diffusion process was hindered by the high mobility and greater distribution among out-of-school youth. It was recommended that the out-of-school youth projects adopt a peer promotion approach that is compatible with daily work schedules and high mobility of the population, that households should be the unit of intervention, and that more volunteers are needed.

108. Adolescent reproductive health: teenagers get it right through peer groups. Eferaro S. *POPULI*. 1998;25(2):8–10. Recognizing that most young people get their reproductive health-related information from friends at school and play, Life Vanguards, a nongovernmental organization in Osogbo, Nigeria, has trained hundreds of peer educators in family life education (FLE) in the attempt to help improve the sexual and reproductive health of young people by giving them the information and counseling they need to make informed reproductive health decisions. Peer educators receive 40 hours of family life education to become qualified to disseminate information to their peers, and learn through Vanguard that they can become anything they want to be, how to take care of themselves, and how to interact with others. Participants are taught about sex, pregnancy, and their bodies. At least 400 young people visit the Life Vanguards center every month, where they can receive accurate and comprehensive information on human sexuality, self-esteem, and the consequences of unwanted pregnancy and contraceptive options through workshops, seminars, group discussions, and videos. Reproductive health services provided include the diagnosis and treatment of sexually transmitted diseases and minor ailments, counseling, and physical examinations. Life Vanguards is funded by the United Nations Population Fund through the Osun State Ministry of Health.

109. Systematized HIV/AIDS education for student nurses at the University of Ibadan, Nigeria: impact on knowledge, attitudes and compliance with universal precautions. Uwakwe CB. *J Adv Nurs.* 2000;32(2):416–424. This paper reports the findings of a study that examines changes in a group of bache-

lor of science (BSc) nursing students' perceptions, knowledge, and attitudes toward human HIV/AIDS, accruing from attempts at a systematized education for the cohort. Based on a three-month study of 141 registered nurses enrolled in a BSc nursing program at the University of Ibadan, Nigeria, it investigates alterations in knowledge and attitudes resulting from intense instruction on HIV/AIDS, AIDS patient care, and compliance with universal precautions. The research reveals that a number of positive changes occurred over the period of the study. Not only were the nurses better informed about AIDS than they were previously, but their attitudes toward the disease and patient care had become considerably more liberal, as well as their disposition to comply with universal precautions. The conclusion emphasizes that it is important that education about HIV/AIDS to be incorporated within current undergraduate and in-service training programs for Nigerian nurses.

110. Final Report for the AIDSCAP Program in Nigeria. Lagos: Family Health International; 1997 (summary in overall AIDSCAP Final Report at www.fhi.org). AIDSCAP focused on empowering the country's public and private sectors to implement sustainable, effective AIDS prevention programs. Specific outputs included 1) a system of nongovernmental organizations with technical and management capacity, 2) better behavior change communication activities, 3) better STI treatment and prevention services, 4) a stronger condom distribution system, and 5) a stronger policy environment for AIDS prevention. Primary target populations consisted of commercial sex workers and transportation workers, and secondary targets included postsecondary school students, urban employed men, and market women and girls. Work was done in 14 states with a geographical spread. Behavior change communication strategies included culturally sensitive information, education, and communications materials, and involvement of gatekeepers and community leaders. Evaluation measured changes in knowledge, risk perception, and reported practices. Dock workers showed an increase from 75% to 87% in the belief that AIDS could be prevented, and those able to cite two correct ways of preventing HIV/AIDS rose from 61% in 1995 to 88% in 1997. The proportion who felt there was nothing that could be done to prevent AIDS decreased from 19% to 7%. Among of long-distance drivers in Cross River and Jigawa States, the proportion who could mention two correct prevention methods, including being faithful partner, abstinence, condoms, and use of clean needles rose from 48% to 92%. The follow-up survey also noted some disturbing increases in mention of incorrect causes such as mosquitoes and public toilets. The proportion of dock workers who perceived they were not at risk from AIDS increased from 44% to 62% because, as respondents explained, they were now using condoms, being faithful to their spouses, and avoiding commercial sex workers. Those who believed they had a moderate to good change of becoming infected attributed this to multiple partners, patronizing commercial sex workers, blood transfusions, an having a spouse with multiple partners. In contrast, only 30% of long-distance truck drivers thought they were not at risk. Among commercial sex workers, 52% believed they had no risk because of condom use and they avoided blood transfusions and injections. Students from Lagos, Cross River, and Jigawa States who perceived themselves as sick ranged from 22% to 39%, which they attributed to multiple partners and not using condoms. The percentage of drivers in Cross River State who reported having a regular sexual partner rose from 48% to 64%. There was only a slight decrease of 3% among drivers who reported having more than five partners. There was a decrease from 46% to 31% in the perception that one's regular partner was being unfaithful . Condom use at last sexual encounter with a nonregular partner among the different target populations rose among long-distance drivers from 21% to 45 %, and among dock workers from 14% to 45%. There was a reported increase in the proportion of commercial sex workers who had ever used condoms from 77% to 97%. Regional variations were observed, with fewer in Jigawa reporting condom use than those in Lagos and Cross River States. Appropriate treatment-seeking for STIs among dock workers increased from 26% in 1995 to 55% n 1997. Commercial sex workers were discouraged from seeking treatment in clinics because of "judgmental" nurses. Although few youth (5%) reported STIs, they too preferred alternative health care sources because of convenience, cost, and confidentiality. In order to sustain these achievements, AIDSCAP/FHI established networks of nongovernmental organizations in three focus states.

111. Intervention for the control of STDs including HIV among commercial sex workers (CSWs) ... (in Ado Ekiti). Orubuloye IO, Oguntimehin F. 1999. Two initial obstacles were found in providing commercial sex workers with condoms: 1) lack of support from men who manage the women or own the hotels, and 2) irregular supplies of condoms. Irregularity of supply was related to recent doubling in condom prices, which was connected to a withdrawing of support for cheap supplies by some international donor agencies; because sex workers entered the trade to make money, many were unwilling to pay more money for condoms. Intervention started by gaining the confidence of one influential manager of sex workers who

subsequently invited the program staff to a meeting of the association of managers. They arranged an educational meeting with 47 of their sex workers. None of the 47 sex workers were native to Ekiti State, but they came from Anambra, Edo, Imo, and Delta States; 15 said they were married and 7 had divorced; all but 1, who was a traditionalist, were Christian. While 26 had no children, the remaining women had an average of 2.5 children each; only 7 had no formal education. Sex workers reported an average of 4.4 clients per day with an average daily income of US $2.74. With these figures, it was estimated that each sex worker would need 132 condoms per month. Truck drivers are among their most common clients. The local government in Ado Ekiti apparently charges sex workers for the annual x100 Development Levy, which implies that it is aware of them and keeps some kind of records. Initially, nearly all had used condoms to prevent STDs, AIDS, and unwanted pregnancies, but they also reported that some customers refused condom use because they thought it would reduce sexual satisfaction. After intervention, all sex workers, with the support of their managers, refuse sex with any client who does not want to use a condom; some clients even bring their own condoms; and when project supplies run out, sex workers buy more at local chemist shops. Although during the project a few sex workers reported that condoms burst, their old fears that condoms would cause physical harm to women and that condoms would limit sexual satisfaction have largely disappeared among the sex workers and their customers.

112. Effect of peer education on deaf secondary school students' HIV/AIDS knowledge, attitudes and sexual behaviour. Osowole OS, Oladepo O. *Afr J Reprod Health.* 2000;4(2):93–103. The study evaluated the effect of an AIDS education program on deaf secondary school students' knowledge, attitudes, and perceived susceptibility to AIDS using peer education. Two secondary schools matched for ownership (government), composition (mixture of hearing and deaf), and teaching arrangement (separate teaching for deaf students using sign language) in Ibadan and Lagos were randomly allocated as intervention and control schools, respectively. All deaf students completed a questionnaire on AIDS at baseline and after then intervention. Following baseline, volunteers from the intervention group received four weeks of training using sign language as peer educators, after which they provided HIV/AIDS information to their peers on a one-to-one basis and in groups, using a variety of approaches for a period of eight months. For example, student wrote and organized drama. Control subjects did not receive such inputs. Pre-intervention and post-intervention group differential scores for knowledge of the causes, modes of transmission, and methods of prevention of AIDS among intervention group compared with the control were significantly ($p < 000001$), but not to perceived susceptibility ($p = 0.64$). This study suggests the influence of peer education on health knowledge of youth but a limitation in changing people's susceptibility.

III. ADDITIONAL REFERENCES

Descriptive

1. AkinnawoEO. Sexual networking, STDs, and HIV/AIDS transmission among Nigerian police officers. *Health Transition Rev.* 1995;5(suppl):113–121.

2. Caldwell P. Prostitution and the risk of STDs and AIDS in Nigeria and Thailand *Health Transition Rev*. 1995;5(suppl):167–172.

3. Erwin JO. Reproductive tract infections among women in Ado-Ekiti, Nigeria: symptoms recognition, perceived causes and treatment choices. *Health Transition Rev.* 1993;3(suppl):126.

4. Makinwa-Adebusoye P. Sexual behaviour, reproductive health knowledge and contraceptive use among young urban Nigerians. *Int Family Plann Perspect.* 1992;18:67–69.

5. Messersmith LJ, Kane TT, Odebiyi AI, Adewuyi AA. Patterns of sexual behaviour and condom use in Ile-Ife, Nigeria: implications for AIDS/STD prevention and control. *Health Transition Rev.* 1994;4(suppl):197–216.

6. Oladepo O. Risk behaviour of Nigerian adolescent girls; implication for educational intervention. *Women's Behavioural Issues* (a journal of the Network for the Psychological Studies of Women). 1994;1(2):113–121.

7. Oladepo O, Bawa H. Factors responsible for unintended pregnancy among secondary school teenagers in an urban Nigerian community. *Women's Behavioural Issues* (a journal of the Network for the Psychological Studies of Women). 1994;1(2):85–92.

8. Olaseha IO, Alao AA. Knowledge, attitude and at-risk behaviours of adolescent students towards AIDS prevention and control in Ibadan City of Oyo State, Nigeria. *Niger School Health J.* 1993;8(1):80–88.

9. Orubuloye IO, Caldwell JC, Caldwell P. The role of religious leaders in changing sexual behaviour in southwest Nigeria in an era of AIDS. *Health Transition Rev.* 1993;3(suppl):93–104.

10. Orubuloye IO. Sexual networking use of condoms, and perception of STDS and HIV/AIDS transmission among migrant sex workers in Lagos, Nigeria. In: Herdt, G (ed.). Sexual cultures and migration in the era of AIDS: anthropological and demographic perspective. Oxford, England: Oxford University Press; 1997: 216–224.

11. Orubuloye IO, Caldwell JC, Caldwell P. The cultural, social and attitudinal context of male sexual behaviour in urban south-west Nigeria. *Health Transition Rev.* 1995;5(2):207–222.

12. Orubuloye O, Caldwell JC, Caldwell P. Men's sexual behaviour in urban and rural southwest Nigeria: its cultural, social and attitudinal context. *Health Transition Rev.* 1997;7(suppl):315–328.

13. Orubuloye IO, Caldwell P, Caldwell JC. A note on suspect practices during the AIDS epidemic: vaginal drying and scarification in southwest Nigeria. *Health Transition Rev.* 1995;5(suppl):161–165.

Intervention

1. Webster JD, Nnabugwu BE. Training of trainers. Workshops for AIDS prevention in Nigeria: lessons learned. *Hygiene*. 1993 Jun;12(2):16–21, 46–47.

2. Williams E, Lamson N, Efem S, Weir S, Lamptey P. Implementation of an AIDS prevention program among prostitutes in the Cross River State of Nigeria. *AIDS.* 1992;6:229–230.

Bibliography

1. Nigerian Institute for Medical Research. HIV/AIDS in Nigeria—Bibliography Report. Yaba, Lagos: NIMR with support from Ford Foundation, MacArthur Foundation, Packard Foundation, and UNAIDS. Edited by Idigbe EO et al.. This bibliography contains references for HIV/AIDS studies in Nigeria dating from the late 1980s, but primarily in the 1990s. The document presents titles of reports, documents, and articles; and papers, authors, and their base institutions. The document indicates that abstracts for all references are available in a national database kept at NIMR. The references are organized under five major headings: basic science; clinical science; epidemiology; prevention and public health; social science, and rights, politics, commitment and action. There are 175 references listed under the social science section, although many appear under epidemiology. The prevention and public health are also related to the social and behavioral sciences. Of value is the citing of paper presented by and about Nigerians at recent international AIDS conferences. There are also unpublished reports from various nongovernmental organizaitons and projects that have implemented community programs. The document is labeled as a first edition, so there are implications that the bibliography/database will be updated in the future. In addition to the aforementioned grantors, a consortium of other donor agencies and nongovernmental organizations provided guidance to the project.

IV. DATA GAPS, UNANSWERED QUESTIONS, OUTSTANDING ISSUES, AND RESEARCH NEEDS

1. Delayed sexual debut. The focus of studies has been primarily on mean age at first sex. Reanalysis of existing data is needed to determine the proportion who remain virgins at each year age group during ado-

lescence and well as new research to determine the reasons and associated factors for this behavior. There is need to examine enabling factors (e.g., same-sex schools, staying in school, religious group participation) that delay sexual debut.

2. Emergency contraception—it has been clear, especially in qualitative research, that young women practice a variety of postcoital methods to prevent conception in the form of douches. This practice can be labeled cultural emergency contraception, and also implies at an obvious level that unprotected sex had occurred, but it may also imply that the partner may not be desirable. More information is needed on the prevalence of such practices as well as the circumstances, reasons, and types of partners involved.

3. Partner differentiation in condom use—studies with commercial sex workers show a clear distinction in condom use between clients and regular boyfriends. Information about such differentiation among other segments of the at-risk population is needed.

4. Multiple partners—this clear risk factor is often documented in teams of reported means and medians, but determination of subgroup differences and reasons for this behavior are not well elucidated.

5. Bridging groups—one or two studies are underway in Nigeria to identify the process of how AIDS gets from high risk groups such as commercial sex workers to the general public as evidenced in antenatal clinic seroprevalence studies. These studies need to be followed closely, and possibly replicated in different sociocultural environments in the country, especially in "hot spot" areas.

6. Meta analysis of commonly studied groups—adolescents are one of the most highly studied groups, but these studies are undertaken with small populations is a wide variety of settings. Effort is needed to compare and consolidate the findings of smaller studies over the past five years into a national, of not zonal picture of HIV/AIDS related indicator behaviors.

7. Redefining knowledge indicators—it has been observed that educational programs give equal emphasis to both common (heterosexual sex) and rarer (barbers) modes of HIV/AIDS transmission in Nigeria. The term "comprehensive knowledge" has been coined to mean mention of two (or three) correct modes of transmission without listing any incorrect response. Reanalysis of existing studies may be needed to tease out the actual level of knowledge of the primary modes of transmission that is more in line with the prime behavioral indicators of sex without a condom, sex with multiple partners, and delay of sexual debut.

8. Men who have sex with men—a poorly documented and studied subject in Nigeria. Ethnographic and anecdotal information may be available, but because this is a taboo or sensitive subject, such information is not easily available. Only one study was found that referred to prisoners and another to adolescents. This might require commission of studies or review of ethnographic works in various university libraries.

9. Injecting drug users—existing studies on drug use and misuse have focused fully on hemp and alcohol. National seroprevalence studies have been able to examine injecting drug users, primarily in Lagos and Port Harcourt, but little is known about the social and cultural milieu in which this practice taken place.

10. Operations research—due to the dearth of intervention studies, there is need to document what behavior change intervention strategies work in the Nigerian setting and with different risk groups.

ANNEX VI
BEHAVIOR CHANGE INTERVENTIONS IN USAID-SUPPORTED HIV/AIDS PROGRAMS

1. BACKGROUND

1.1 HIV/AIDS Behavior and Behavioral Antecedents

More than 100 references with abstracts on social and behavioral studies on HIV/AIDS or on related topics such as reproductive health have been produced as part of the team effort. They form a valuable baseline for understanding factors that may enhance or prevent the spread of HIV. Because it has such a large sample, the 1999 Nigeria Demographic and Health Survey (NDHS; National Population Commission, Abuja, 2000) results on behavior and antecedent influences are summarized here. The DHS reported on several key HIV/AIDS behavioral and behavior antecedent indicators among the 8,206 women and 2,680 men interviewed. These findings provide an important background for assessing past behavior change intervention programs and developing future action.

Antecedents included awareness, knowledge, and perceptions of risk. Men (89.5%) were more likely to have heard of HIV/AIDS than women (74.4%). Awareness increased with education, until the level of higher education, when men and women were equally aware. Urban residents were more likely to have heard of AIDS (for men, 95.3%:86.9%; for women, 86.7%:68.5%). There was also greater awareness in the southern and central parts of the country. Among those who were aware of AIDS, 64.0% of women and 74.5% of men knew a correct method of AIDS transmission. The most commonly mentioned methods by men were keeping to one sexual partner (43.1%) and avoiding sex with prostitutes (42.9%). Among women the most commonly mentioned ways were keeping to one sexual partner (51.8%) and ensuring safe injections (22.4%). Generally, knowledge increased with education.

Most women (86.4%) and men (85.4%) who were aware of AIDS said it was almost always fatal. Many women (60.8%) and men (60.7%) thought that a healthy looking person could have the AIDS virus. About one-third said they knew someone who had AIDS or had died of the disease. There was low perception of personal susceptibility. Belief that one had no risk or little risk of contracting AIDS was similar for men (64.4%:30.0%) and women (65.5%:25.5%). Among couples, 85.9% of partners were in agreement that their personal risk was small or nonexistent.

Among women, 74.5% who had heard of AIDS said they had changed their sexual behavior after hearing of it compared with 85.1% of men. Such changes included keeping virginity, abstaining, use of condoms, staying with one partner, fewer partners, avoiding prostitutes, no homosexual contact, and asking the spouse to be faithful. Among those who had sex in the preceding 12 months, 6.5% of women and 14.8% of men reported using a condom during their last sexual encounter. This increased with educational level, was more common in urban areas, and among unmarried respondents (40.0% of never-married men and 22.8% of never-married

women). Overall, 5.5% of women and 11.3% of men reported that they had ever given or received money, gifts, or favors for sex.

1.2 Developing Behavior Change Strategies

Behavior change intervention strategies should be judged on the basis of their being justified and appropriate. A behavior change intervention strategy is justified if the project planners document the nature and extent of target health-related behaviors and differentiate the behaviors (outcome indicators) among important subgroups (e.g., gender, age, ethnicity, occupation). This could be achieved through a baseline survey, or based on the experience of Family Health International, on data available from existing and previous implementation activities. The indicators must be regularly monitored and evaluated in order to judge behavior change intervention effectiveness.

Appropriateness of a behavior change intervention strategy is based on a thorough understanding of the factors that influence the target behaviors, otherwise known as behavioral antecedents. This process has also been termed "educational diagnosis." Diagnosis determines which cognitive, affective, social support, skill, and resource factors support or inhibit the performance of a behavior. Diagnosis can be achieved through both formal surveys and qualitative means, and this process also should differentiate among the different population subgroups of interest. Strategies are judged appropriate if they address the primary influences on the behavior of a particular subgroup. For example, condom use may be influenced by a combination of knowledge and attitudes for male youth in school, by resource factors for male youth who are not in school, and by negotiation skills and social support factors for female youth. Strategies thus should be tailored to the behavioral antecedents of each subgroup.

In addition, there needs to be operations research to test the efficacy of different strategies with different subgroups of the population. Unfortunately, the bibliographic search turned up only eight intervention studies with abstracts and two more without that had taken place in Nigeria. These focused on peer health education, training, and work with high risk groups including commercial sex workers and dock workers through their associations. Implementing partners need to better document their program results and publish these so that others in the field can learn.

Generally, it appears there is little sophistication exhibited by implementing partners and other donors in developing behavior change intervention strategies that address the antecedents to the main behavioral indicators (sexual debut, number of partners, condom use at last sexual intercourse). There has been emphasis on multistrategy approaches, but apparently more with the hope that one strategy will be effective, than with a conscious effort to match strategies with real antecedents that have been linked statistically with the indicator behaviors. Use of qualitative data from FGDs, for example, is of value to learn about the scope/range of factors, and has been used by various implementing partners, but the process of linkage needs quantitative methods and data to be effective.

1.3 Evaluating Behavior Change Intervention Performance

Just as baseline planning and strategy selection require data, evaluation depends on replication of the same data gathering procedures. Unfortunately, there is much reporting on processes of empowering local partners (i.e., organizational development parameters) without documenting that such empowerment has produced results. Some implementing partners have documented changes in reported behavior among intervention groups, without use of control groups and without reference to the HIV/AIDS interventions in the broader environment that could have contributed to follow-up behavior changes. There are also output reports such as increases in condom sales from 58 million in 1999 to 71 million in 2000 without further data to indicate actual use by specific risk groups.

2. CURRENT AND RECENT IMPLEMENTING PARTNER ACTIVITIES

Among the current USAID implementing partners, only three are involved in behavior change intervention for HIV/AIDS. The bulk of the work, accounting for 50 subproject grants in FY 2001, was Family Health International. The Centre for Development and Population Activities, which works primarily in family planning/reproductive health, had two HIV/AIDS subgrants, but as described below, it has incorporated HIV/AIDS education into its other projects. JHU/CPP has one project currently. Other implementing partners and donors have current or recent activities of relevance. These are described below.

2.1 Family Health International

Among the various USAID and U.S. Government players, FHI appears to be the most heavily invested in behavior change intervention work. Therefore, one should expect that FHI would be the best source of indicators for behavior change intervention baseline and achievements. Such data are not easily accessed. The proposal submitted for the IMPACT[1] project discussed past achievements, but these were primarily framed in the context of process or output indicators such as nongovernmental organizations whose capacity had been strengthened and partnerships established. This is ironic because FHI had been in Nigeria since 1988 under three separately but sequentially funded projects and contracts.

The 1997 final report of one of these projects, AIDSCAP, was accessed through FHI's website (www.fhi.org). Although the report primarily described processes, it presented some welcome before and after measures of program outcome in terms of knowledge and condoms use (Table 1). A limitation is that there is no control group comparison. One could therefore, not be certain whether the changes seen after two years were due solely to the FHI intervention, or may have been influenced by the great variety of mass media and information, education, and communications activities going on in the country. Another limitation in judging success is not really knowing the actual proportion of the target populations reached by the program. As an output indica-

[1]Family Health International. IMPACT Proposal (Implementing AIDS Prevention and Case Project). Lagos, Nigeria, November 2000.

tor, the report noted that, "AIDSCAP-supported NGOs sold over 820,000 condoms and distributed another 261,000 free-of-charge to target groups."

FHI reported that it conducted a small baseline survey among selected populations for the Impact proposal. FHI reported that 21% of male bank workers could mention two ways to protect themselves against HIV/AIDS and 24% of the bankers had a non-regular sexual partner during the previous 24 months. Among commercial sex workers, 42% reported nonuse of condoms in the most recent encounter with their special, noncommercial partner. The proposal also drew on the NDHS and other studies to give a brief baseline overview of the issues. Data on behavioral antecedents was primarily in the form of knowledge. No links were made between behaviors and antecedent factors. Thus, behavior change intervention strategy selection appeared to be based more on past experience rather than a scientific behavioral analysis.

TABLE 1

Percentage citing two effective ways to prevent HIV/AIDS transmission

	1994–95	**1997**
Lagos dock workers	60	88
Cross River and Jigawa truck drivers	48.2	92.4

Percentage reporting condom use in last sexual encounter with nonregular partner

	1994-95	**1997**
Lagos dock workers	13.9	45
Cross River and Jigawa truck drivers	21.2	44.8

Percentage reporting consistent condom use with nonregular partners

1994-95		1997
Lagos university students	18	39
Cross River CSWs	-	84.5

Source: FHI - AIDSCAP Final Report, Vol. 2, 1997

The IMPACT proposal included a list of indicators for behavior change as follows:

1. Proportion of sexually active persons who report
   a. Having nonregular sexual partners
   b. Use of a condom in most recent sexual act with nonregular sexual partners

2. Proportion of population who report
   a. Knowledge of HIV/AIDS
   b. At least two ways of reducing risk from HIV
   c. Two accurate, gender-specific symptoms of sexually transmitted infections

3. Proportion of sexually active men visiting commercial sex workers in the past 12 months

4. Proportion of persons reporting symptoms of a sexually transmitted infection who reported
   a. Having sought treatment
   b. Having notified their partner

These indicators relate to the first two of the three core behavioral indicators: 1) use of condom at last sexual encounter, 2) having multiple sexual partners, and 3) age at sexual debut. They could be strengthened with reference to baseline data and to specific target groups. In addition, reference is made to only one behavioral antecedent, knowledge. Measures and indicators or such constructs as self-efficacy (confidence) to negotiate condom use, perceptions of social support for safe sex behaviors, and attitudes toward condom use are examples of other factors that should be measured at baseline, linked with reported behaviors, be targeted with appropriate strategies once links have been established, and then monitored and evaluated for change over time.

Such monitoring is missing. Subsequent quarterly reports on IMPACT have primarily consisted of lists of activities performed by the various local nongovernmental organizations and other partners. It appears that such a listing of activities (outputs) is standard reporting procedure for the implementing partners. Therefore, HPN should reexamine the reporting system. Obviously one would not expect noticeable behavior changes from quarter to quarter. With this in mind, HPN might design an annual report wherein behavioral monitoring data could be presented.

The IMPACT proposal indicated that FHI would undertake a small behavioral surveillance survey, and this would be of great value for planning in the longer term. Representatives of the Centers for Disease Control and Prevention thought that FHI did undertake a behavioral surveillance survey, entered the data and undertook analysis, but had not yet shared its findings. Actually, a year 2000 behavioral surveillance survey was done and results are available, but the 2002 survey has not been done and furthermore, several different agencies think that they are doing a survey during this year. During a briefing at the National Action Committee on AIDS it was reported that FHI was very good at sharing its reports. These were said to be detailed and strong on output, but limited in terms of outcome and impact data. The 2000 behavioral surveillance survey is summarized in the bibliography.

For behavioral antecedents, FHI reported during the group interview that, “We said knowledge is not an issue anymore. We need to focus on behavior.” Although this recognizes correctly that knowledge is not the only, nor the most relevant behavioral antecedent in each situation, it misses the point that there are antecedents. It was later discerned that qualitative methods such as FGDs are used to identify behavioral antecedents, but as it was pointed out, these results cannot be linked to behaviors, thereby ensuring the appropriateness of change strategies and forcing the planning of multiple strategies across the board in the hopes that at least one is appropriate.

For monitoring and evaluation, FHI reported as part of its revised programming since the first IMPACT proposal that the following outcome effects would be measured: a 10% increase in the

proportion of the target population using condoms (to be specified by target group), comprehensive knowledge of HIV/AIDS and "other behavioral indicators as appropriate."[2] Such data are to be collected as part of the upcoming behavioral surveillance survey, but unless the survey is designed to cover the groups targeted for intervention thus far, it is not certain whether it will capture any changes.

2.2 BASICS I & II

Between1995 and 2000 BASICS I organized 16 community health coalitions consisting of community-based organizations such as religious groups, social clubs, residents' associations, youth groups, trade associations, and private health care facilities in low-income areas of Lagos, Kano, and Aba. Although the focal issue around which the 16 community partners for health initially formed was child survival, the groups quickly branched into a variety of other social, health, and environmental needs. The community partners are now independent nongovernmental organizations registered with the federal government.

The community partners, particularly through their youth wings, have undertaken HIV/AIDS activities. Although, as mentioned, the initial focus was child survival, the cope of work of community partners was broadened through a USAID initiative to include a focus on creating HIV/AIDS awareness, as reflected in the revised subproject proposals of 1997. This development, far from being seen as an imposition, was welcomed by the community partners and in fact, gave the youth wings of the fledgling groups a major focal issue for organizing programs. Their actions are outlined below in their own words.[3] This anecdotal information is supplied as an indication that population, health, and nutrition implementing partners whose primary focus may not be HIV/AIDS are still active in HIV/AIDS work and should be involved by other implementing partners working on HIV/AIDS in the same states or local government authorities.

The BASICS II project completed an integrated child health survey in 2000, as a baseline for expanding from the 10 current local government authorities into 20. Such surveys provide an opportunity to assess HIV/AIDS indicators, and could provide measurable evidence of whether the activities of the youth wings have an effect.

AIDS Activities of Lagos Community Partners for Health

In Lagos, AIDS awareness activities appeared to be a particular responsibility of the youth wings of the community partners for health (CPH). As noted by the JAS/Mushin partner, "The youth of the CPH organized a programme on HIV/AIDS and it was very successful." Specifically, "The seminar about HIV/AIDS was organized last year" (JAS/Mushin) Subsequently, "There is periodic rally and campaign about HIV/AIDS."

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[2]Nigeria HIV/AIDS/STI IMPACT Program Monitoring and Evaluation Plan. FHI Nigeria, August 2001.

[3]extracted from: Lessons Learned and Impacts of the CPH Experience in Nigeria. WR Brieger and PB Ogunlade. Basic Support for Institutionalizing Child Survival (BASICS) Project. U.S. Agency for International Development. Lagos Nigeria. December 2001

Mobilization for AIDS awareness in the Ajegunle community partnership for health focused on both community and individual levels. "For the AID's awareness campaign, we were many and we hired vehicles. We helped to mobilize and acted as volunteer health workers to counsel members of the community to avoid risky sexual behaviour." In addition, "The CPH still organises rallies to promote the use of condom to prevent STI and HIV infection." The youth in Ajegunle organized, "a programme (drama) called 'I Am Pregnant.' It was recorded on video cassettes and is being played in schools in the community to educate the public about evils of early and unplanned pregnancy which the CPH initiated." As a result, "Awareness about AIDS is now widespread," and "People's sexual behaviour has changed, and they find it very easy to visit health facilities now through the referral method."

A CPH health facility representative in Ajegunle also noted that, "We are actively involved in campaigns for HIV/AIDS, immunization, and child and maternal care." The medical officer of health for the Ajeromi-Ifelodun local government authority, of which Ajegunle is a part, explained that, "We have had a very good and remarkable experience working with the CPH. They created a lot of awareness on breastfeeding, HIV/AIDS and immunization in the community." Similarly, the MPH from Lagos Island local government authority observed that, "I know that they (Lagos Island CPH) do organize rallies and campaigns on very sensitive health issues like HIV/AIDS." Likewise in Amukoko CPH, "Through our youths, we have improved the preventive rate of HIV/AIDS acquisition." This "has improved knowledge concerning HIV/AIDS prevention."

The Lawanson youth, like those in other CPHs noted, "They mobilize people to avoid AIDS." In Lawanson (Surulere) CPH collaboration with the Local Government was achieved for one of the youth AIDS education efforts. "The youths were also promised N25,000 by the chairman to organize HIV/AIDS campaign. The money was to be used for T-shirts, etc. In a sense we do influence the LGA on health matters because they see us as helping to boost their health programmes." In Surulere LGA, the Supervisory Councillor for Health recalled the Lawanson CPH among the two NGOs with which he was familiar with in the community. Concerning the CPH, he said, "I know the Chairperson. Even today we met on the HIV/AIDS program."

Kano CPHs

In Kano, there was mention of specific plans for activities in Badawa CPH. One PMV representative said, "The CPH is just about to execute a project on HIV/AIDS control. Our PMVs will be responsible for marketing of the condoms and offering these to CBD agents. We had a written [proposal through the project coordinator. We have set up a committee for the implementation of the project." Another CPH member added, "We are making an arrangement for the peer health. The youth were taught how to be careful for HIV/AIDS and to concentrate on their schooling." A respondent from Badawa CPH talked more about the grant that the CPH was about to receive:

The CPH is just about to execute a project on HIV/AIDS control. Our PMVs will be responsible for marketing of the condoms and offering these to CBD agents. We had a written [proposal through the project coordinator. We have set up a committee for the implementation of the proj-

ect. There is another committee on social mobilization. They were set up by the governing board. The CPH is very capable. We have just planned one and everything is set out and we will do it soon.

The Gama-B CPH noted their "Programmes have included a campaign against HIV/AIDS." Another young male from Gama-B said, "Our CBO provided technical assistance in the area of HIV/AIDS campaign—design a manual for the campaign, providing resource persons."

Aba CPHs

HIV/AIDS activities in Aba have considered a variety of issues of concern to youth, not just sexually transmitted infections. "We held talk with two schools on creating awareness of HIV." (Eziukwu II CPH) "The youths can now carry out campaign on alcoholism, sexually transmitted diseases and the impact of smoking on health" (Aba Ukwu CPH). A health facility representative from Aba Ukwu explained the involvement of their staff: "We are also involved in campaigns to improve knowledge on HIV/AID STDs their prevention and improve prompt seeking of medical attention and improved utilization of the health facility by the community."

In Ohazu CPH, "Enlightenment campaign on AIDS was equally initiated by our CPH. In fact we are on that campaign presently." Another CPH member gave more details. "The Youth Rally was organized by the youths where we organized a lecture, film-show and invited other NGOs and FHI." "Community members are aware of what AIDS is all about and its prevention." As reported by a female CPH member from Eziukwu II, "We educate the community members on the prevention of HIV/AIDS. We played the role of participating in those activities, both financially and otherwise."

2.3 CEDPA

Although CEDPA's interventions focus largely on family planning/reproductive health, many of the projects incorporate some element of HIV/AIDS prevention. In particular, CEDPA's activities in Benue State have played a major role in drawing attention to the need for care and support of orphans and persons living with HIV/AIDS. The Vulnerable Children's Project based in Otukpo and Okpokwu LGAs in Benue State undertook awareness campaigns on World AIDS Day and distributed information, education, and communications materials in addition to the direct care work with orphans and training of caregivers and adolescent heads of household. Africare is subcontracting with CEDPA to produce similar programs in Rivers State.

Of interest is the interagency collaboration seen in CEDPA's funding of six community partners for health coalitions in Lagos and Kano that were formed under BASICS I to undertake family planning and reproductive health activities at the community level. The first quarterly report for FY2002 indicated that these activities included AIDS-related behavioral interventions.[4] Both the Amukoko and Ajegunle CPHs in Ajeromi-Ifelodun local government authority started with

[4]Center for Development and Population Activities. Quarterly Report October - December 2001, submitted to USAID, Abuja.

CEDPA in 1999, and in 2001 marked World AIDS Day with rallies and campaigns. The Ajegunle project included as one of its objectives to meet before December 2000 an increase in the proportion of youth who know two correct modes of transmission and two correct causes of HIV/AIDS from 10% to 25%. They also aim to increase the proportion of youth who use condoms to prevent AIDS. HIV counseling is being delivered by CBDs and peer educators in Ajegunle. The Lawanson CPH joined the CEDPA fold in 2001, and their youth wing organized a rally for World AIDS Day. Badawa and Gama-B CPHs in Kano also engaged in HIV/AIDS educational activities with CEDPA support and have set similar behavioral change objectives as Ajegunle CPH.

Under the ENABLE Project, core funds were used to undertake a pilot behavior change planning workshop with Country Women of Nigeria (COWAN), and Ondo State-based nongovernmental organization with branches in many states. At that workshop, CEDPA Nigeria staff, COWAN staff, and COWAN community members worked for two days to diagnose the various target groups, their AIDS-related behaviors, and the reasons for those behaviors in order to come up with strategies to be integrated into the 2001 cost-extension plan.

Other nongovernmental organizations funded by CEDPA that have undertaken HIV awareness and other behavior change activities in 2001 include National Council of Women's Societies, Anambra and Osun State Branches; Church of Christ in Nigeria, Plateau State Project; and Care for Life, Adolescent Reproductive Health Project, Gombe State.

2.4 Johns Hopkins University/Center for Population Programs

JHU/CCP has been working in Nigeria for more than 14 years providing communication program support for other USAID projects as well as developing its own unique projects. A current behavior change project is a telephone hotline based in Lagos. The hotline is already providing information, counseling, and referral under the Youth Empowerment Foundation (YEF). Radio and TV programs and spot announcements have begun to advertise the hotline. Various behavior change communications materials have been developed and distribute as part of hotline promotion. A monitoring process is in place in the form of mystery callers.[5]

YEF started the hotline on its own in February 2000. It received JHU support starting August 2001. YEF is also linked with a media resource center that provides materials and training to journalists on HIV/AIDS and reproductive health issues. JHU has provided two lines for call in. In addition, JHU picked five referral organizations to receive an additional five phone lines. One is the Lagos University Teaching Hospital (LUTH) were hotline callers can be referred to for testing. Another is with SWAAN for those needing care and support, while three are with youth serving organizations in different geographical locations in Lagos for callers who wish to talk face-to-face with a counselor. The table below summarizes the calls received between November and January.

[5]The Johns Hopkins University Center for Communications Programs. Health Projects Quarterly Report October - December 2001, Submitted January 2002 to USAID, Abuja.

Hotline	Variable	Nov 01	Dec 01	Jan 02	Total	%
Sex	Male	132	197	328	657	79.3
	Female	50	54	62	166	20.0
	NR	0	0	6	6	0.7
Age	NR	1	33	44	78	9.4
	0–5	0	0	1	1	0.1
	6–10	6	2	1	9	1.1
	11–15	8	4	11	23	2.8
	16–20	37	71	91	199	24.0
	21–25	48	68	102	218	26.3
	26–30	26	41	71	138	16.6
	30–35	13	22	37	72	8.7
	36+	13	11	38	62	7.5
Phone	Private	97	187	325	609	73.5
	Public	51	49	45	145	17.5
	NR	34	16	26	76	9.2
Education	None	0	0	0	0	0.0
	Prim	1	3	3	7	0.8
	Sec	54	56	82	192	23.2
	Tert	82	130	272	484	58.4
	NR	45	63	39	147	17.7
Info Source	Radio	119	145	56	320	38.6
	Print	3	6	36	45	5.4
	Television	33	76	142	251	30.3
	Friend/Fam	15	11	11	37	4.5
	IEC	0	2	20	22	2.7
	NR	12	12	131	155	18.7
Location	Lagos	124	217	348	689	83.1
	Outside	22	12	21	55	6.6
	NR	36	23	27	86	10.4

The data show an increase in the number of callers, but for an area of several million residents, this appears small at present. According to the BBC, "Fixed telephone lines number fewer than four per thousand people while mobile phone penetration does not even register statistically."[6] Statistics for Lagos State specifically were not available, through one would expect it to have more much than the national average. Still, most people, especially youth, do not have phone access. Even the phones used for the hotline require electricity, which is irregular in Nigeria. Batteries hold charges for only so long, and the generator for the project needs replacement. At least one regular line, not dependent on electricity is needed.

The hotline has been using the mass media to make itself known. A press briefing kit was passed out at the official launching. There have been recent articles in the *Daily Times* and interviews of YEF staff on two Lagos television stations. Business cards and posters distributed are distributed. Many have been posted in cyber cafés. An e-mail address is provided, and staff indi-

[6]BBC News - http://news.BBC.Co.UK/Hi/English/Business/Newsid_1120000/1120572.Stm Wednesday, 17 January, 2001, 15:58 GMT, Nigeria Kicks Off Telecoms Auction.

cated that six to eight e-mail inquiries are made weekly, though as yet these are not formally recorded. A few letters are even sent by post.

The hotline relies on volunteers, but because JHU has not provided funds for volunteer transport and feeding, many volunteers drop out. Funds for one or two permanent counseling staff are needed, not only to answer the hotline, but to train and supervise the volunteers. There is also need for internet connectivity in the office because staff must go to a cyber café to access their e-mail account. After radio broadcasts about the hotline on Voice of America and BBC, a few calls have started coming from other parts of the country. There is need to explore the possibility of establishing comparable services in places such as Kano, Jos, Port Harcourt, and the big commercial centers of Onitsha and Aba, to name a few.

The data being collected by the counselors needs to be computerized, and effort is needed to ensure that all relevant data are collected unobtrusively for each call. The issue of evaluating behaviour change resulting from this type of intervention is a challenge. Fortunately, one of the volunteer counselors is also a full-time staff at the LUTH referral center, so it would be possible to match referral and follow-through. Because the bulk of callers are from post-secondary institutions, it might be possible to undertake surveys at the three main institutions in the city. Other avenues for evaluation need to be explored.

2.5 Population Services International/Society for Family Health

PSI and its local partner SFH have been involved in condom social marketing in support of HIV/AIDS for 10 years. Their efforts include provision of other family planning commodities. They enjoyed initial support from USAID, and during the period of decertification, the U.K. Department for International Development (DFID) was of great assistance. DFID documents PSI sales of condoms as increasing from 23 million in 1993 to 74 million in 2000, with a dip recorded during the first two years of decertification.[7] PSI also has a strong social research component and several of its reports are found in the bibliography, some of which have been published. Some of the local research efforts are seen in the following document titles:

- Condom Negotiation in Non-Spousal Relationships in Nigeria. JeniferAnyanti. Undated, but the study took place in 2000. The study was based on male and female FGDs in Lagos and Oyo States.

- Risk Perception of HIV/AIDS Among Youths in Nigeria. G.O. Omoregie. Undated. Based on male and female FGDs in Abia, Oyo, Edo, and Bauchi States.

- Female Condom Acceptability Study. Jenifer Anyanti (and reviewed by other FSH Staff). Undated. Of note was collaboration with CEDPA and an Ibadan-based non-governmental organization in distributing and monitoring the condoms. The study

[7]DFID. Programme Memorandum, DFID Nigeria. Promoting Sexual and Reproductive Health for HIV/AIDS Reduction. 19 April 2001.

population consisted of commercial sex workers in Amuo Odofin local government authority in Lagos.

As noted elsewhere, PSI/SFH have provided support for other implementing partners, notably FHI and the nongovernmental organizations that it supports. PSI is also responsible for gathering regular behavioral data through a commercial survey firm. It is not clear how these data feed back into implementing partner program planning for behavioral change and program evaluation.

2.6 Policy Project (The Futures Group)

One could say that the Policy Project has one of the most challenging behavioral change intervention agendas of all implementing partners by trying to change the behavior of policy makers whose own actions enable or inhibit the ability of the public to access HIV/AIDS information and safe sex products that will help them change their own behaviors. In its situation analysis, the Policy Project examined the variety of agencies and implementing partners who were providing HIV/AIDS information.[8] Many agencies included in this report were mentioned, but the Policy Project concluded that a need still existed to develop a comprehensive and coordinated communication strategy to remove all informational barriers on HIV/AIDS.

3. COLLABORATING DONOR ACTIVITIES

3.1 Centers for Disease Control and Prevention (CDC)

In the near future, CDC will be contracting with Advocates for Youth (AFY), a Washington-based private voluntary organization with experience in Nigeria, and Balm and Gilliad (B&G), a faith-based organization, to assist in developing behavior change intervention capacity in a few local nongovernmental and community-based organizations. The goal of CDC partner work in behavior change intervention is that the youth service organizations become independent, find their own donor support, and become self-sufficient in the shortest period of time. CDC will also collaborate with FHI in states where their work overlaps. In addition, CDC is sponsoring a behavior surveillance survey to learn more about risk behaviors.

AFY has already identified a Lagos-based youth group with whom to work. AFY previously worked in Nigeria during a four-year period with an intermediate-level organization, the Association for Reproductive and Family Health (ARFH) and eight other community-based youth-serving organizations on the West African Youth Initiative (WAYI), which was supported by the Ford and Rockefeller Foundations. WAYI tested the applicability of the peer health education approach to reproductive health education (including HIV/AIDS) among both in-school and out-of-school youth, and learned that the approach is more effective in the in-school setting, in part because of the greater intensity, frequency, and duration of interaction among young peo-

[8]HIV/AIDS in Nigeria: Situation, Response and Prospects, Key Issues. Policy Project, March 2002.

ple in that setting as opposed to the more diffuse out-of-school environment.[9] AFY continued to provide technical assistance to ARFH in the adaptation and application of its Life Planning Education curriculum.

Neither the team members nor the CDC representatives were familiar with the work of B&G, although they knew that the group has been working in Cote d'Ivoire. Concern was raised with the CDC representatives about potentially sensitive cultural-religious sentiments that may arise should B&G work with Muslim youth. The uphill work of BASICS staff in Kano was shared in which difficulties in community mobilization were encountered when promoting family planning, immunization, and AIDS education, which some local residents thought was against their culture. The CDC representatives said that they would not deny access to any Nigerian youth service organizations to their behavior change intervention partners on the basis of religious affiliation, but the team felt that this missed the point.

CDC had a strong health education component in its previous decade-long Nigerian project, Combating Childhood Communicable Diseases (CCCD). CDC used its own in-house professional health education staff and provided technical assistance to federal and state health education units. In its present incarnation in Nigeria, it is not apparent whether CDC has the technical background in health education to give proper backing to behavior change interventions and supervision to its private voluntary organization partners.

3.2 DFID

DFID has a history of involvement in reproductive and HIV/AIDS education in Nigeria. It funded ARFH to undertake work with high-risk groups in Ibadan and has assisted the Oyo State Ministry of Education in developing and disseminating an extended life planning education curriculum in secondary schools throughout the state. DFID has been active in all aspects of AIDS work in Benue State. Within its program memorandum, cited earlier, DFID emphasized the need for behavior change and change in antecedents such as reproductive health knowledge and attitudes.[10] The report stresses the need for scaling up successful efforts and targeting behavior change interventions for at-risk groups. The need for education of policy makers is also recognized.

Although not referring to the disjoint between baseline data gathering and selection of appropriate behavior change intervention strategies discussed earlier, DFID emphasizes that, "Behavioural change management requires systematic approaches based on detailed social analysis to develop effective behaviour change strategies. This should include social, familial and community influences around the primary target audience." The need for integrating mass approaches such as social marketing with community based activities of nongovernmental organizations is stressed, as is the importance of monitoring and evaluating to facilitate under-

[9]West African youth initiative: outcome of a reproductive health education program. Brieger WR, Delano GE, Lane CG, Oladepo O, Oyediran KA. J Adolesc Health 2001 Dec;29(6):436-446.

[10]DFID. Programme Memorandum, DFID Nigeria. Promoting Sexual and Reproductive Health for HIV/AIDS Reduction. 19 April 2001.

standing of how behavior change occurs. This advocated level of sophisticated behavior change intervention planning should be the norm expected of all USAID implementing partners.

DFID will continue to work with its existing partners, specifically PSI and SFH, under a new project, Promoting Sexual and Reproductive Health for HIV/AIDS Reduction (PSRHH) in Nigeria.[11] This is an integrated approach, not only because it involves several agencies (including USAID and the National Action Committee on AIDS), but also because it will address reproductive health behavior change, safe sex products, and community response to HIV/AIDS through local civil society and nongovernmental organizations.

3.3 MacArthur Foundation

The John D. and Catherine T. MacArthur Foundation has had an office in Nigeria since 1994, with a strong reproductive health and population emphasis, inclusive of HIV/AIDS issues. The Foundation offers individual leadership grants and support for local nongovernmental organizations. Organizations such as SWAAN have received assistance to carry out activities such as care and support for people living with HIV/AIDS. Of particular interest in behavior change interventions is that many individual grantees have carried out both survey and intervention research on the social and behavioral aspects of reproductive health and HIV/AIDS.

The current country representative identified innovative and model projects, including one in Bida, Niger State, that works through the agriculture extension system to reach community leaders and members with reproductive health information. Another was a "girls' power initiative" in Calabar, Cross River State. Part of the effort involved making young men aware of the problems of sexism. One former grantee who studied youth reproductive behavior in Ondo State used the experience to establish her own local organization, and is now running the hotline project funded through Johns Hopkins University in Lagos.[12] Another project among rural and urban male high school students in Oyo State examined their attitudes of male dominance and reproductive health knowledge, and after a baseline study,[13] organized youth clubs for boys in the schools to educate students on HIV/AIDS and sexual responsibility. The MacArthur Foundation also funded an innovative study that examined HIV/AIDS and reproductive health reporting in the Nigerian press and a follow-up training of newspaper science reporters in Kaduna and Lagos.

There are on average 2530 individual grantees per year, but at present a compendium of their projects does not exist. It would be valuable to identify and learn more about those projects that had a health education/behavior change intervention focus so that lessons could be learned from

[11] Promoting Sexual and Reproductive Health for HIV/AIDS Reduction (PSRHH) in Nigeria. Summary for Discussion during the First Meeting of the Programme Steering Committee on March 14, 2002.

[12]Unmet reproductive health needs of adolescents: implications for HIV/AIDS prevention in Africa. Onifade (1999). in Orubuloye et al. (eds.) The Continuing HIV/AIDS Epidemic in Africa: Responses and Coping Strategies, Health Transition Centre, The Australian National University, Canberra.

[13]Sexual attitudes and behaviour of male secondary school students in rural and urban areas of Oyo State, Nigeria. Oladepo O, Brieger WR. African Journal of Reproductive Health, 2000; 4(2): 21-34.

the models and so that USAID implementing partners and others could link up with these researchers who are in their focal states.

3.4 UNICEF

UNICEF Nigeria has always had a comprehensive health communication and community mobilization component to its child survival activities, especially oral rehydration therapy and immunization promotion. UNICEF has been responsible for developing information, education, and communications materials; simple guidelines; and job aids that were seen in clinics and health offices throughout the country. Now UNICEF is turning its attention to HIV/AIDS. Two major recent activities described by the staff included a massive awareness-raising campaign (MARC) on HIV/AIDS, which was initiated in five Nigerian cities in December 2001, and two days of training NYSC members on HIV/AIDS at 11 orientation camps in January 2002.

The MARC process, as outlined in a pamphlet,[14] is built on advocacy; social mobilization; and information, education, and communication. MARC is to be implemented through government agencies, nongovernmental organizations, people living with HIV/AIDS, schools, unions, religious organizations, journalists, performing artists, and donor agencies. The goal is to reach 40–50 million young people where they are gathered (i.e., schools, churches, mosques, markets, motor parks), and through the mass media. The intervention is intended to reach many people at a low cost. It was first tried during December in Abuja, Kaduna, Ibadan, Lagos, and Port Harcourt. Political leaders, musicians, traditional rulers, and nongovernmental organizations mobilized youth and donated funds.

An opportunity to reach National Youth Service Corps (NYSC) members with HIV/AIDS information during their orientation period sprang up quickly, and UNICEF took advantage. Each state has an orientation camp for NYSC members not long after they graduate from university. The three-week camps are held in all 36 states and the FCT. While much of it consists of military-type training, there are periods for language skill training and sessions on personal health and safety needs. UNICEF was invited to undertake a two-day session on HIV/AIDS during the orientation at 12 camps that were held at the beginning of this year. They were able to find trainers and to work at 11 camps, thereby reaching more than 40,000 young people. The intention is that first, being new to their posting sites through urban and rural communities in the country, the NYSC members will know how to protect themselves from AIDS. Second, because an estimated 60%–80% are posted to secondary schools, they would be in a good position to pass on their knowledge to adolescents in these communities. It should also be noted that NYSC members have a weekly community development work day and are expected to undertake a community project. Even those who are not posted to schools might avail themselves of their new AIDS knowledge and organize community programs for their own project.

The Lagos orientation camp had more than 11,000 NYSC members in residence. Thirty-six trainers were recruited and each worked with two or three platoons. The future plan is to reach

[14]Massive Awareness Raising Campaign in HIV/AIDS (MARC): Focusing on adolescents and young people. National Action Committee on AIDS and UNICEF (undated).

an estimated 200,000 NYSC members annually when the program spreads to all states next year. In the meantime, the need exists to develop a handbook and procedures to work through existing NYSC structures to guarantee supervision and follow-up. NYSC has state offices, sub-offices at zonal levels within a state, and local governmental authority representatives.

4. LESSONS, CONCLUSIONS, AND DIRECTIONS

Behavior change interventions appear to be of two main types: working with small, community-based nongovernmental organizations and mass education. Although many agencies have undertaken some form of behavior change intervention work in Nigeria over the past decade, most efforts have been with small organizations or single communities, and little documentation has been done and made available to formulate lessons learned for future interventions. It is disappointing that USAID's main implementing partner in behavior change interventions for HIV/AIDS, FHI, has produced little in the way of convincing evaluation of its activities. Even the long-running AIDSCAP program evaluation lacked any reference to risk group population coverage, and provided no control group data to validate the few before and after statistics that were available.

PSI is the primary player in the mass education category. It appears to have the capacity to conduct evaluation research, but it is not clear how that has been applied in Nigeria as feedback to enhance programming. UNICEF is also involved in mass awareness. As DFID noted, there is need to coordinate the mass and community approaches to behavior change interventions. This is especially true when it comes to evaluation. This is important because in theory, a community/nongovernmental organization-based project could show improvements in behavior change when in fact the major input that led to the change came from the mass media efforts of another implementing partner.

The bulk of what little intervention that has been reported appears to focus on adolescents and youth. Even so, little cross-cutting knowledge is available about this group, and a meta analysis of available studies may be needed. While it has been shown epidemiologically that youth are a broad at-risk group, little is known about what subsections of the group present the primary risk categories. For example, questions such as, "Does staying in school have any protective effect?" need to be addressed. Some work has been reported on interventions with commercial sex workers and those in high-risk settings, but without a clear link between strategies and behavioral antecedents or the use of control groups, one cannot say definitively whether or how the intervention worked. Valuable models may exist from studies that were done by the MacArthur Foundation and those of similar groups, but these have not been assembled for easy sharing among donors.

DFID has called for better quality behavior change intervention planning and evaluation. The capacity for implementing partners to undertake this is in question. CEDPA arranged a brief workshop for its staff in behavior change intervention planning. Johns Hopkins University appears to rely on the communication program planning processes it developed more than a decade ago. Family Health International relies on a combination of qualitative, formative assessments without scientific rigor. None of the implementing partners directly involved in

HIV/AIDS appear to have availed themselves of in-country human resources in the form of the more than 600 graduates who earned masters degrees in public health (health education) from the University of Ibadan, although the BASICS Project has on its staff a graduate of the health education diploma program who later received a masters degree in health education at Leeds Metropolitan University. There is also a question of whether adequate behavior change intervention/health education technical assistance is being provided to the implementing partners from their U.S. headquarters.

Based on these reviews and observations the following recommendations are offered:

1. **Common Indicators.** A common set of behavior change intervention objectives and indicators must be established among implementing partners working with HIV/AIDS so that all are planning toward the same end.

2. **Intervention Lessons.** Lessons learned from intervention should be established. There is need to look beyond the published and available intervention studies and pull together a database of both published and nonpublished reports on behavior change interventions done by target/risk group. Focus should be on reports and studies that present actual data that confirm change (or otherwise) in behaviors and behavioral antecedents (hopefully with the two linked). From this database, a report on lessons learned about fostering behavior change in each group needs to be developed.

3. **Planning Skills.** Better behavior change intervention planning and programming needs to be fostered with all implementing partners. Important short-term efforts include staff workshops on behavior change interventions and appropriate technical assistance from the headquarters of implementing partners and other available technical experts. Hiring staff trained in health education and behavior change is an important mid-term goal.

4. **Coordinated Evaluation.** Implementing partners and the nongovernmental organizations they support need to put in place a behavioral component to their monitoring and evaluation activities that measure target behaviors and their antecedents at appropriate intervals (i.e., after reasonable time has passed for interventions to take effect). A working group from all implementing partners and donors involved in behavior change intervention is needed to ensure that common evaluation tools are used and that each is aware of the other's efforts as possible sources of reinforcement or contamination. Reporting formats for population, health, and nutrition efforts need to be revised to encourage presentation of appropriate behavioral indicator data on an annual basis.

ANNEX VII
ASSESSMENT MISSION SCOPE OF WORK

Background

Nigeria's social indicators are among the worst in the world. The Bureau for Global Health recently assessed the needs in all countries supported by USAID and determined that Nigeria ranked second in the magnitude and severity of its health problems associated with HIV/AIDS, child survival, and population. Among the world's nations, Nigeria has the fourth largest number of adults infected with HIV—3.1 million—the highest number in West Africa and the third highest in sub-Saharan Africa. The Government of the Federal Republic of Nigeria conducted the first HIV sentinel seroprevalence survey in 1990. The rate was roughly 1.8% at that time. Over the past 11 years, this rate has steadily risen to 5.4% in 1999 and to 5.8% in 2001.

USAID/Nigeria has supported HIV/AIDS activities since 1987. It is one of the few donors that sponsors an HIV/AIDS program and it presently ranks as the second largest donor after the United Kingdom's Department for International Development. For the Africa and Global Bureaus within USAID, Nigeria is a priority country, and receives a continually increasing budget for HIV/AIDS activities. HIV/AIDS funding for FY 1999 was $2.7 million, it increased by more than 300% to $8.75 million for FY 2000, increased again by 140% to $12.73 million in FY 2001, and increased yet again in FY 2002 to $16.5 million. Funding is anticipated to remain this high or possibly higher.

During the long years of military rule in Nigeria, USAID maintained a presence in Nigeria, but it did not work with the military government. Instead, the Mission directed its implementing partners to work through and with the private sector (i.e., nonprofit, indigenous nongovernmental organizations) on a smaller scale and with a much smaller budget. Before the new civilian government was elected, all of USAID's HIV/AIDS assistance was directed to nongovernmental organizations. In FY 1999, with the democratic transition in Nigeria, USAID began to support the military HIV/AIDS program and the National Action Committee on AIDS (NACA), which is the technical arm of the Presidential Commission on HIV/AIDS. USAID's current HIV/AIDS program integrates prevention with care and support and policy activities. A major component of the portfolio is USAID's collaboration with the United Kingdom to support condom social marketing. The programs are implemented by six partner organizations based in the United States that have specific expertise in communication, policy development, program implementation, training, and social marketing. The partners enter subagreements with local nongovernmental organizations, religious groups, and other civil society partners in order to provide them with the technical assistance and training they need to implement local efforts in HIV/AIDS prevention, care, and support.

At the national level, HIV/AIDS awareness and response has increased markedly since the new civilian government took office in May 1999. President Obasanjo has been at the forefront in the struggle against HIV/AIDS and has instructed the public health agencies to coordinate closely with donor agencies in promoting HIV/AIDS prevention. However, the national HIV/AIDS pro-

gram needs financial and human resources to strengthen prevention and care programs, as well as those to reduce the stigma and discrimination associated with HIV/AIDS.

The Mission is presently in the third year of a four-year transition strategy that began October 1999. The transition strategy will end September 2003, and work on the new five-year strategy will begin shortly. A strategic assessment of the Mission's current HIV/AIDS efforts is needed to round out the transition period and to provide analysis and recommendations for developing the new strategy.

Objective of Strategic Assessment

The overall objective of the strategic assessment is to provide a body of data and analysis that will assist USAID/Nigeria and its stakeholders in developing the Mission's HIV/AIDS strategy for the period 2004–2009. The Mission is winding down on its four-year transition strategy and will soon begin to design a new five-year strategy. Data and analysis from this assessment, its findings and recommendations, and its distillation of lessons learned will be critical in rounding out the transition period and in defining and formulating new strategies and activities. It is assumed that Nigeria will remain a priority country for the U.S. Government and that funding will remain high.

Scope of Work

The purpose of this strategic assessment is to produce a report that will guide the Mission's immediate and future directions for HIV/AIDS programming. In order to create this report, the assessment team will need to do the following:

- Assess the nature and scope of the HIV/AIDS epidemic in Nigeria;
- Analyze the responses to the epidemic by the Nigerian government, USAID/Nigeria, Centers for Disease Control and Prevention (CDC), other donors, and other relevant stakeholders and actors vis-à-vis the findings of its nature and scope;
- Distill the lessons learned that would be valuable in formulating a new USAID HIV/AIDS strategy and in rounding out the remaining time in this transition strategy;
- Take into account USAID's comparative advantages and its potential resources, and the involvement of the Government of Nigeria, other U.S. Government actors (e.g., CDC) and other donors, and identify the issues and activities the Mission should address in its new five-year HIV/AIDS strategy;
- Identify key activities and corrective actions that should be undertaken during the final months of the transition strategy;
- Create a bibliography of all relevant epidemiological and sociocultural data on HIV/AIDS and sexuality in Nigeria. Based on the results of the literature search for this bibliography, identify critical gaps and recommend a priority research agenda to fill those gaps. These recommendation should differentiate between what data need to be collected before the design of the new five-year strategy and what data need to be collected on a longer-term basis for program support;
- Identify critical data gaps that should be closed before or during the new strategy; and

- Review the indicators and the strategies for their collection as stated in the Mission's HIV/AIDS project monitoring plans. Analyze the appropriateness of the project monitoring plan in terms of the new USAID/Washington directives, USAID's present program, and the new five-year strategy.

Methodology

In order to examine the issues listed above, the following methodology should be considered:

- A review of documents such as the HIV/AIDS Emergency Action Plan (HEAP), the USAID/Nigeria Annual Report, the 2001 Sentinel Surveillance Survey, the 2001 High Risk Surveillance Survey, and other related documents (partial list attached);
- Structured interviews with key actors in the Government of Nigeria involved with HIV/AIDS activities (e.g., the NACA director, the NACA monitoring and evaluation unit, and the military), other donor organizations including the HIV/AIDS design team of the United Kingdom's Department for International Development, the implementing partners involved in HIV/AIDS activities, local nongovernmental organizations involved with HIV/AIDS programming (e.g. Society for Women and AIDS in Africa, Network of People with HIV/AIDS), and appropriate Mission personnel (e.g., PPC, the education unit) and CDC;
- Visits to projects presently funded by USAID/Nigeria;
- A literature search for all HIV/AIDS epidemiological and sociocultural data for Nigeria and the compilation of a bibliography of that data. The search for references will include a web search, communications with knowledgeable individuals both within and outside Nigeria, and interviews with cooperating agencies and a search of their archives; and
- Review and analysis of the project monitoring plans for HIV/AIDS activities.

Reports

The contractor will submit a brief assessment report (no more than 20 pages) in accordance with the requirements specified below and in a manner that is conducive to assisting Mission decision makers and stakeholders with the development of the Mission's new five-year HIV/AIDS strategy. The format for the strategic assessment report is as follows:

- Executive Summary—concisely state the most salient findings and recommendations (2–3 pages);
- Introduction—purpose, audience, and synopsis of task (1 page);
- Background—a brief overview of HIV/AIDS in Nigeria including both the epidemiological and sociocultural profile of the epidemic (1–2 pages);
- Government of Nigeria approach—the history of government interventions and its present strategy (1 page);
- USAID assistance approach—a description of the USAID program strategy and activities implemented in response to the problem, target populations, partners (1 page);

- Other donors—a description of the involvement of other significant donors, particularly CDC and DFID, which will have an HIV/AIDS predesign team in Nigeria during the same time period (1 page);
- Findings/Conclusions/Recommendation—including programming gaps and opportunities (identification of gaps in programming and, given USAID's comparative advantages, opportunities for future USAID investment), local capacity (in-country public and private sector capacity for HIV/AIDS programming) (10–12 pages);
- Lessons learned (1 page);
- Issues—a list of key technical issues and administrative issues, including critical gaps in available epidemiological and sociocultural data (1 page);
- Suggestions for future directions (2–3 pages);
- Annexes—including evaluation methods, schedules, interview lists, and a bibliography of existing epidemiological and sociocultural data.

The team should provide an interim debriefing for Mission staff before USAID/Washington participants depart that highlights the major findings and recommendations obtained to that point. The remaining team members will incorporate these comments.

Relationships and Responsibilities

The team will work under the direction of HIV/AIDS unit of the General Development Office. This subgroup consists of Lynn Gorton, the office chief; Shelagh O'Rourke, senior advisor for HIV/AIDS; and Dr. Temitayo Odusote, the HIV/AIDS program manager.

Work Days and Schedule

Travel days both to and from the United States for staff based in the United States and within Nigeria for all team members are included. Six-day work weeks are recommended.

<u>First week, March 4–10</u>
- Background reading (entire team)
- Travel to Abuja by U.S. team members

<u>Second week, March 11–17</u>
- Team planning with the full assessment team and Mission and CDC staff
- Meet with Government of Nigeria and Abuja-based donors and implementing partners
- Meet with Lagos-based implementing partners and donors

<u>Third week, March 18–24</u>
- Visit project sites
- Prepare Mission debriefing
- Conduct debriefing
- USAID/Washington staff depart

Fourth week, March 25–March 31

- Team leader incorporates Mission comments and prepares first draft in tandem with the Nigerian team members
- Team leader oversees compilation of the epidemiological and social science bibliographies and their submission
- Team leader departs

Fifth week, April 1–7

- Team leader submits first draft of assessment report and the two bibliographies and departs for United States (due date, April 5)

Six and Seventh weeks, April 8–21

- Mission prepares and submits comments on draft to team leader (due date, April 19)

Eighth week, April 22–30

- Team leader incorporates comments and finalizes draft
- Final report submitted to Mission and Synergy Project (due date, April 30)

Ninth to Eleventh weeks, May 1–15

- Synergy Project reviews and edits report
- Synergy Project submits final, edited report to Mission (due date, April 15)

Team Composition and Qualifications

The team should have the following composition and skills.

A team leader, who will be responsible for managing a team of full-time and part-time team members in conducting a comprehensive review of USAID/Nigeria's current HIV/AIDS portfolio and in developing a strategy document that clearly shows the technical areas that USAID should support or initiate in the coming years. She or he will be responsible for organizing the report and presentations. She or he will be the chief liaison with the Mission's General Development Office and staff. The team leader will provide guidance to other team members, assign appropriate tasks, and ensure timely completion of specific tasks as well the entire assessment. She or he should have extensive experience in team leadership and a strong technical grounding in HIV/AIDS. Previous team leadership is a prerequisite for this position. The team leader must be able to provide technical as well as administrative leadership to the team. She or he should consult regularly with General Development Office staff throughout this exercise to ensure that progress is sound and that key issues in the statement of work are being addressed. The team leader should have extensive USAID experience and an understanding of USAID systems and procedures, and 10 years of experience in the HIV/AIDS sector, preferably in developing countries. Although the team leader should have a solid technical background, his or her strengths should accentuate the management skills and experience required in the statement of work.

A program management expert, who must have robust operational experience in the implementation and program management of HIV/AIDS prevention and care and support programs. This person should have 5–10 years of international experience and superior understanding of the complexities of USAID program management. This should include extensive knowledge of cooperating agencies and their respective areas of expertise, and the advantages and disadvantages of field support, a strategic objective agreement, and other bilateral funding mechanisms (e.g., a large consortium of cooperating agencies and other nongovernmental organizations). The program management expert will contribute heavily to the future directions section of the statement of work.

A monitoring and evaluation expert, who must have state-of-the-art knowledge of recent USAID/Washington directives in monitoring and evaluation of HIV/AIDS programs and the latest information on mandatory HIV/AIDS indicators. This person should have 5–10 years of international experience, preferably in a developing country, and must also understand the complexities of USAID program management and monitoring. She or he will be the main contributor to the analysis of the project monitoring plan and to recommendations for future monitoring and evaluation directions.

An epidemiologist, who should have extensive knowledge of the HIV/AIDS epidemiological situation in Nigeria. She or he must also have knowledge of the main stakeholders and actors in the HIV/AIDS field in Nigeria. Excellent writing skills are required. In addition to supplying background information on Nigeria to expatriate team members, she or he will be responsible for the epidemiological section of the report and the epidemiological bibliography.

A social scientist with graduate training in sociology or anthropology. She or he must have extensive knowledge of the sociocultural aspects of the HIV/AIDS epidemic in Nigeria and of the main stakeholders and actors in the HIV/AIDS field. Excellent writing skills are required. She or he will provide the team with specific recommendations on how high-risk groups can be reached more effectively and efficiently. In addition, she or he will be responsible for the sociocultural section of the report and for compiling the sociocultural bibliography on HIV/AIDS in Nigeria.

A care and support expert, who should have a clinical background and extensive knowledge of HIV/AIDS care and support in Nigeria. In addition to supplying the team with the relevant background information on HIV/AIDS care and support in Nigeria, she or he will provide the team with specific recommendations on how care and support activities can be provided more effectively and efficiently in the country and scaled up. In addition, she or he is responsible for those sections of the report that address HIV/AIDS care and support, and for compiling a bibliography that lists all relevant literature on this topic in Nigeria.

ANNEX VIII
LIST OF CONTACTS

Africare

Chinwe A. Effiong, Country Representative
Chinedu C. Chugbo, Program/Administrative Manager

Centers for Disease Control and Prevention

Wayne Duncan, Country Representative
Joseph Nnorom, Medical Epidemiologist

Centre for Development and Population Activities

Enyantu Ifenne, Country Director
Maisha Stroizer, Deputy Country Director
Aisha Abubakar, Program Officer
Chineze Okala, Project Assistant
Toyin Akpan, Program Officer
Chinwe Onumonu, Program Officer
Margaret Agbeje, Project Manager
Hilkka Abicht, Population Fellow

Canadian International Development Agency

Evelyn Lee, Development Counsellor

U.K. Department for International Development

Julian Lambert, Senior Health & HIV/AIDS Adviser, Africa Policy Dept.
Claire Moran, Programme Coordinator HIV/AIDS
Robert Gross, Strategic Advisor in Health and Development
David Hales, Consultant

EngenderHealth

Mofoluke O. Shobowale, Senior Program Officer

Family Health International

Ekong Emah, Senior Program Officer
Julie Victor-Ahuchogu, Senior Evaluation Officer
Rosemary U. Nnamdi-Okagbue, Care and Support Technical Officer
Sara Bowsky, Senior Technical Officer

The Futures Group International/The Policy Project

Jerome Mafeni, Country Representative

Johns Hopkins University/Center for Communications Programs

J. Kayode Tejumola Ajiboye, Deputy Country Representative
Thomas Okoi Ofem, Health Program Officer

Japanese International Cooperation Agency

Hisanao Noda, Deputy Resident Representative

MacArthur Foundation

Kole A. Shettima, Country Director

National AIDS and STDs Control Program

Dr. Kolo, Care and Support and Prevention of Mother-to-Child Transmission Officer
Ben Nwobi, Program Administrator
Dr. Mohammed, Surveillance, Research and Epidemiology Officer
Dr. Isa, STI Officer
Miss Asiodun, IEC Officer

National Action Committee on AIDS

Prof. Ibironke Akinsete, Senior Special Assistant to the President on HIV/AIDS & National Coordinator
Dr. O.A. Abosede, Special Assistant to the Senior Assistant

Pathfinder International

Mike Egboh, Country Representative

Society for Family Health

Clayton Davis, Managing Director
Bright Ekweremadu, Deputy Managing Director
Augustine Ankomah, Senior Technical Advisor
Zacch Akinyemi, Research and Evaluation Manager

Joint United Nations Programme on AIDS

Dr. Berhe T. Constantinos, Country Program Advisor

U.S. Agency for International Development

Lynn Gorton, General Development Officer
Bunmi Dosumu, Senior Program Manager (Population/Rural Health)
Liane Adams, Child Survival Advisor
Shelagh O'Rourke, Senior Child Survival and AIDS Advisor
Temitayo Odusote, Program Manager, HIV/AIDS
Melinda Taylor, Basic Education Officer
Sandy Ojikutu, Senior Education Advisor
Minnie Wright, DG Officer

United Nations Children's Fund

Cyrilla Bwakira, Chief, Protection and Participation
Abiola Davies, Assistant Project Officer, HIV/AIDS

World Bank

Anne Okigbo, Health Specialist